# The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees

Vol. XLV. CHICAGO, ILLINOIS, OCTOBER 21, 1905. No. 17.


## Original Articles

### CHRONIC ULCER OF THE STOMACH AND FIRST PORTION OF THE DUODENUM,

WITH ESPECIAL REFERENCE TO THE SURGICAL TREATMENT.*


WILLIAM J. MAYO, A.M., M.D.

Surgeon to St. Mary's Hospital.

ROCHESTER, MINN.


Chronic ulcer of the stomach is certainly a more frequent disease than clinicians would lead us to believe. Compare for a moment the results of autopsy findings with the clinical diagnosis on hospital admission. Take three hospitals in Philadelphia—Blockley Hospital, giving 1.42 per cent. as the result of autopsy finding; University Hospital, clinical findings 0.48 per cent.; Pennsylvania Hospital, clinical findings 0.13 per cent. (Francine). In other words, in two hospitals of exactly the same character in the same city, ulcer is found clinically nearly four times as often as in the other, while both fall short of the postmortem from 3 to 11 times. Bettman finds that a diagnosis of gastric ulcer was *made* but 24 times in 27,567 Cincinnati hospital admissions (.08 per cent.) Howard, in comparative tables, shows that New York City autopsy records give 1.42 per cent. of gastric ulcers, while the records of clinical admissions show only 0.44 per cent. Boston does better, autopsy 1.84 per cent., clinical 1.28 per cent. Francine says, "I entirely agree with Dr. Howard's statement that we can not base accurate or conservative conclusions on data obtained from clinical observation."

In 10,841 autopsies in 7 large American cities (Howard), the per cent. of gastric ulcers was 1.32, while in London it was 4.6 per cent. and in continental Europe 8.54 per cent. Welch gives 5 per cent. in 32,052 autopsies at Prague, Berlin, Breslau, Dresden, Erlangen and Kiel. There are two explanations of the greater apparent frequency of gastric ulcer in Europe than in America. One is that it is not apparent but real, and another, that the pathologic departments of European cities have for a long time been permanently established and postmortems are obligatory, while until of late years the work in American cities has been under changeable management and subjected to a variable personnel, also that consent of legal representatives must be obtained, and therefore autopsies are relatively much less frequent in this country. As showing the effect of searching with a definite purpose, Grunfeld of Copenhagen found 11 per cent. of gastric ulcers in 1,150 autopsies, and in the next 450, examined more carefully, found 20 per cent.

In regard to the relative frequency of gastric and duodenal ulcers, we have but few statistics. Francine found 38 cases of gastric ulcer in 2,830 autopsies, 2 duodenal, also 2 duodenal and gastric, practically only 10 per cent. of duodenal. As compared with surgical findings this is too small, and does not bear out the relative frequency shown by statistics of acute perforations. Moynihan in 22 cases of acute perforating ulcers found 15 gastric and 7 duodenal. Our experience with acute perforating ulcer is relatively smaller than with chronic ulcer. In 13 acute perforating ulcers 6 were gastric and 7 duodenal. Brunner collected 600 cases of acute perforation; of which one-fourth were duodenal. He also showed that 90 per cent. of acute perforating ulcers occur through the site of chronic ulcers and that diagnostic symptoms usually exist previous to perforation.

The duodenum above the opening of the common duct of the liver and pancreas is exposed to the same ulcer-producing causes that exist in the stomach, with the possible exception of traumatism; and as its tunics are thinner, it is even more readily affected by irritating secretions and ingesta. Statistics would seem to show that ulcer of the duodenum is a rare malady, but the data on which the supposition is based have been furnished either by postmortems or are the results of notoriously defective clinical examinations.

Postmortem study has certain disadvantages due to influences which have perhaps become active either shortly before or at the time of death, and which often mask the primary lesion and cloud the condition as it existed in life. Secondary changes and terminal infections may prevent a correct interpretation of the signs and symptoms which were manifested during the early stages of the disease—the curable period. This is shown by the revelations of surgery in appendicitis, extra-uterine pregnancy and cholelithiasis.

The same potent force is now at work in the field of ulcer of the stomach and duodenum, and the first fact which has been demonstrated is that those forms of ulceration which affect all the coats of the viscera and which by reason of their large size and thick, scar-like appearance can be easily demonstrated, are nearly as common in the duodenum as in the whole of the stomach. The postmortem statistics which have been gathered are certainly erroneous in their summing up as to the relative frequency of gastric and duodenal ulcer. The only conclusion which one can arrive at is that the examination was general and did not cover the duodenum with the same care that it did the stomach. The duodenum has received but little attention and therefore it was not subjected to close scrutiny during a general autopsy, especially as this particular feature was not in view at the time.

Admitting that clinical observation falls far short of the autopsy findings, in what way do results of surgical work compare with postmortem records? In 14 years Dr. Charles H. Mayo and myself have operated

* Read in the Section on Surgery and Anatomy of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

in nearly 800 cases of stomach and duodenal disease. Eliminating gastric cancers and all other cases in which the necessity for operation did not immediately arise from ulcer, we have 384 operations for gastric ulcer and its results, and 84 operations for duodenal ulcer, or about 78 per cent. gastric and 22 per cent. duodenal; but this is not fair to the duodenal disease, because it has only been within a short time that we have recognized duodenal ulcers and many of our earlier cases marked pyloric, may have been an extension from the duodenum. We have thought it wise to narrow the limits of this study to a consideration of only the last two and one-half years, from Jan. 1, 1903, to July 1, 1905, and also to consider only the cases subjected to gastrojejunostomy, excluding all of the ulcers excised or subjected to Finney's operation, pyloroplasty, etc. This gives us 231 cases, 119 males and 112 females, of which 158 were gastric, 60 duodenal and 14 duodenal and gastric; 20 of the duodenal ulcers extended up to and involved the pylorus. In other words, out of 231 gastric and duodenal ulcers, the duodenum was involved 74 times; 55 times in males and only 19 in females.

### CLASSIFICATION OF GASTRIC AND DUODENAL ULCERS.

For clinical purposes I will classify in 2 groups, the *indurated* and the *non-indurated*, all the ulcers operated on: First, the *indurated* ulcer, which involves all the coats of the organ and which usually shows evidences of cicatrization in some part of its extent. The diseased area is a thick, milky-white patch, easily identified from without the gastric or duodenal wall. In the stomach it involves the pyloric portion in the great majority of cases, frequently saddle-shaped, riding the lesser curvature and extending flap-like down the anterior and posterior walls. In such cases the pyloric portion beyond is usually thickened and gives rise to more or less obstruction, even if not actually involved in the ulcerative process. In about 20 per cent., more

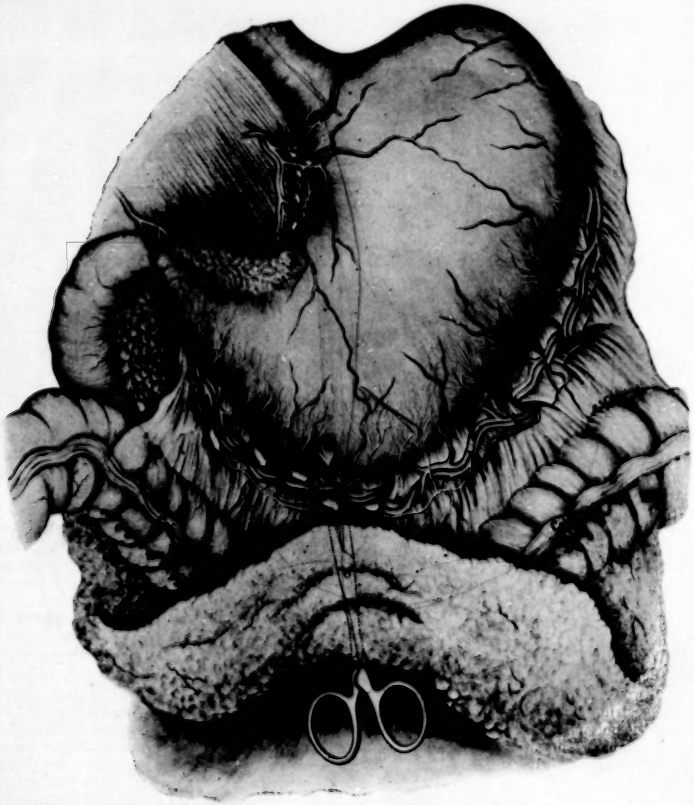


Fig. 2.—Showing forceps passed through from behind and grasping anterior gastric wall near the greater curvature at the lowest point. Saddle ulcer of lesser curvature near pylorus.

V 45
1905

than one ulcer was found. In the duodenum the first 2½ inches are always involved well above the entrance of the common duct with its alkaline discharges, and the ulcer extends up to the pylorus or within ¾ of an inch of it. In only 3 instances could more than one duodenal ulcer be shown. Sixty-eight of the 74 duodenal ulcers were of the indurated variety, and 151 of the total 231 cases of duodenal and gastric ulcers were so classified. Of these 95 were males and 56 females.

Seymour Taylor in 100 cases found 72 males and 28 females. Associated with this group of indurated ulcers are benign, pyloric obstructions of inflammatory origin, hour-glass stomachs, adhesions and deformities arising from protected chronic perforations.

The second variety I have designated the *non-indurated* ulcer. They have also been termed medical or clinical ulcers, because although they give undoubted evidence of the disease there is nothing to show the ulcer site from the exterior of the stomach upon operation. The reason for this is that the lesion involves only the mucous coat. In some cases a little thickening can be discovered (Mikulicz) or a little glueing of the mucous to the muscular coats, preventing the normal slipping of one on the other (Moynihan). But in the typical case prolonged search of the interior of the stomach may be necessary to find the diseased process. Many an individual has bled to death from an ulcer so minute that it could only be found with the microscope. Bramwell says that many of these cases heal so minutely that no evidence can be found at autopsy.

We have had a number of cases come to operation after years of trouble—hemorrhages, stagnation and retention of food, etc.—who were cured by operation but in whom no sign of ulcer could be shown on the exterior of the stomach. In some instances we have opened and searched the interior of the gastric cavity to find an ulcer from

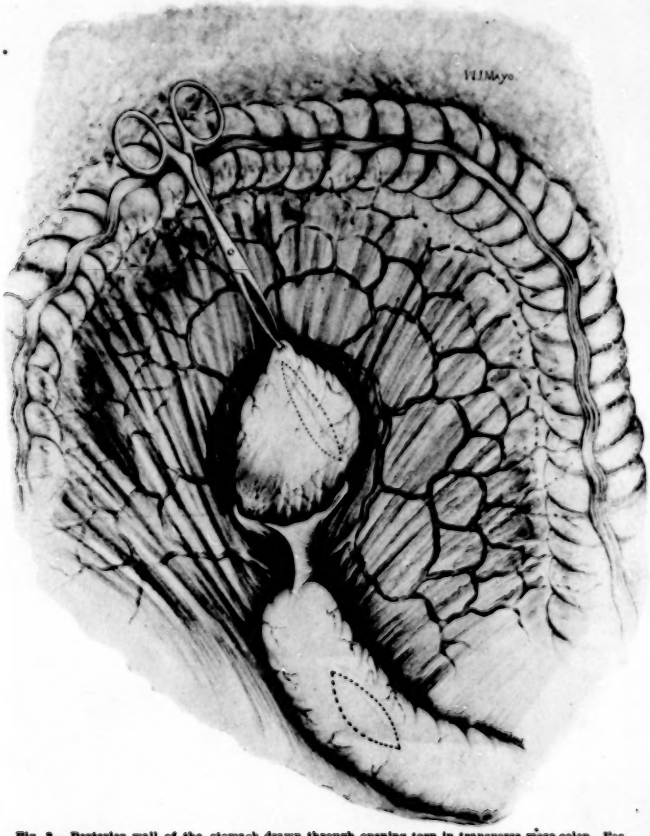



Fig. 3.—Posterior wall of the stomach drawn through opening torn in transverse meso-colon. Forceps still marking low point. Dotted lines on stomach and jejunum show situation of proposed anastomosis.

which the patient had bled repeatedly and within a short time but we have not always found it. It is possible, or indeed probable, that in some of these patients an indurated ulcer may have existed in a situation not accessible to palpation or inspection.

Non-indurated ulcers are of two varieties: (a) The mucous erosion of Dieulafoy in which only the superficial epithelial layers of the mucous membrane are involved, and (b) the typical, round, peptic and fissure ulcer. In our experience the fissure-like ulcer has been of frequent occurrence. In one subject bleeding at the time of operation was found to proceed from a small fissure which could only be detected by bending the mucous membrane sharply, the little defect showing as the weave would show on folding a piece of velvet. Eighty of the 231 cases belong to this group of non-indurated ulcers, 56 being females and 24 males. One interesting diagnostic feature was first pointed out by Lund. He noted that an ulcer could sometimes be located by an enlarged "sentinel" gland in the omentum, tributary to the lesion. We have verified this in a number of cases.

We have noted for a long time that in nearly all open ulcers the tributary lymphatic glands were definitely enlarged to the size of a Lima bean, from one centimeter to one and a half centimeters in diameter, usually in the gastro-colic omentum; in this respect being unlike cancer, which affects the glands of the lesser curvature by preference. The enlargement is soft and shows simple adenitis. It is probable that this may be a valuable diagnostic sign, and that we should find enlarged glands in all cases of ulcer, mucous or otherwise. The value is somewhat lessened because we have seen adenitis in the same situation in cases of cholecystitis; but in these cases enlarged glands were also found along the common duct.

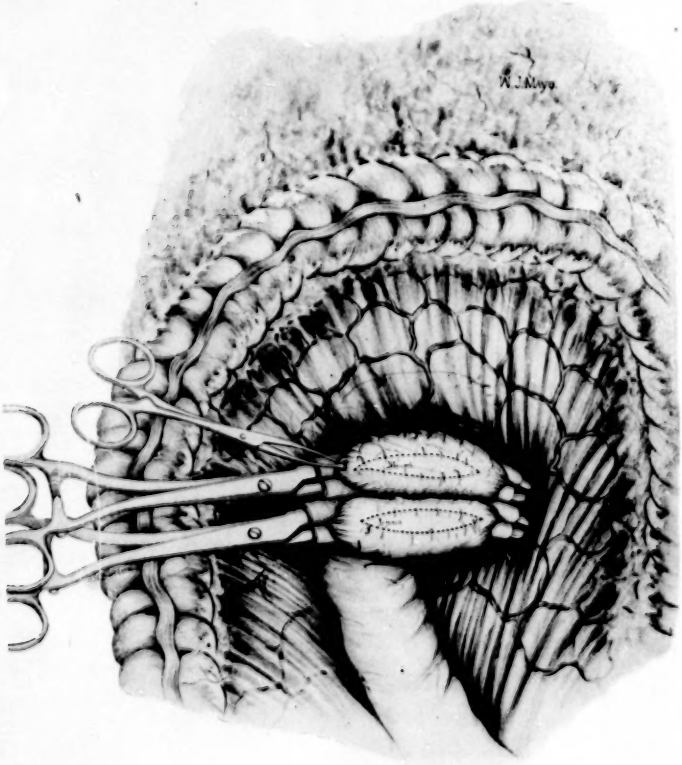



Fig. 4.—Stomach and jejunum drawn into clamps for suturing. Small forceps still marking low point of stomach.

The question of non-indurated ulcer needs further elucidation. The very fact that the condition may not be cleared up at the operating table prevents us from gaining in wisdom by the experience. We know that the

V 45
1905

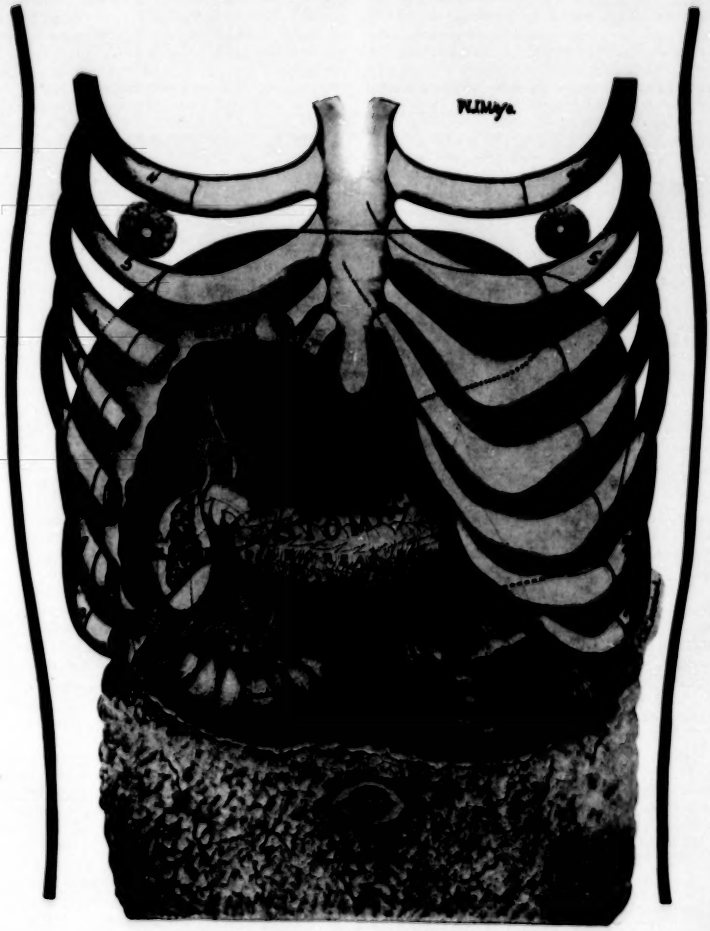



FIG. 1—Shows relation of the duodenum to the stomach

V 45
1905

majority of well-selected subjects recover definitely; but a minority give less favorable results, and operating for purely medical indications leads to unscientific and at times indiscriminate resort to operation. Especially is this true of that vast army of neurasthenics with gastric symptoms depending on a neurosis; a complaint simulating ulcer, a prolapsed, splashy stomach, a too ready diagnosis followed by an ill-advised gastroenterostomy. The fact that the stomach appears to be normal is explained by the known inability always to locate a mucous ulcer. This is not a fanciful nor overdrawn picture. There is seldom a week but several such cases present themselves at our clinic and are refused operation. Many of them have already had their movable organs fixed (kidney and uterus) and the removable ones removed (ovaries, appendix, etc.), and now are anxious to secure relief by a further resort to the knife. That such cases are frequently operated on can not be questioned, and that they will tend to bring surgery of the stomach into disrepute is equally certain. The so-called atonic dilatations are not often greatly benefited by operation unless there is marked and persistent delay of food in the stomach. This group is closely allied to the neurasthenic class, and the individual case must be carefully considered, with a prejudice against operation unless it can be clearly shown to be indicated. Fortunately, the field of gastric surgery is too large for a few of these unfortunate instances to affect the general results, but I would urge on the profession the necessity of eliminating the neurasthenic from the field unless the signs and symptoms of ulcer are distinct. Of course the nervous condition is no valid reason for refusing to relieve actual disease.

There are some problems closely related with the non-indurated ulcer which are but little understood, and one of the most important of these is pyloric spasm. The *x*-ray experiments of Cannon have been very interesting in this connection, showing that the fundus of the stomach is the storehouse where maceration takes place, and the muscular, pyloric end the active agent in kneading the ingesta into a homogeneous whole. Numerous observations at the operating table have convinced us that pyloric spasm is not due to a contraction of the pyloric sphincter alone, but of any part or all of this end of the stomach.

There is undoubtedly, also, such an entity as chronic contraction of the pyloric muscle without actual demonstrable lesion, and in such a degree as to be the only evident cause of gastric dilatation, stagnation of food and chronic distress. A serious form of interference with gastric motility has been noted by Ochsner, Finney, Munro and others, as well as by myself, in which there is chronic dilatation of the stomach and duodenum as far as the common duct of the liver, giving rise to many of the symptoms of obstruction. Ochsner believes this condition is due to a pathogenic contraction of a normal excess of muscle in the second portion of the duodenum, which he has demonstrated anatomically. Another variety of interference with gastric motility is the not rare condition of "valve formation," in which a high lying pylorus is held taut by a short gastrocolic omentum. I have met with a small number of such cases, three of which were reported before the surgical section of the American Medical Association at Atlanta, May, 1896.

From our personal experience no conclusions can be drawn, but at present we do not advise operation in any case of acute ulcer, although certain complications such as perforation, hemorrhage and grave obstruction may compel its speedy performance. We do not advise operation in chronic ulcer or its associated diseases until careful and prolonged medical treatment has failed to permanently cure, and we strongly advise against operation in neurotic individuals with prolapse of the stomach. We advise operation in all cases of stagnation and retention of food depending on mechanical causes such as pyloric obstruction, and in cases of exhausting hemorrhages. We advise and practice operation in that considerable group of chronic cases with acute exacerbations, in whom frequent relapses with their attendant disabilities prevent the patient from the enjoyment of good health. It is this latter group which reminds us forcibly of the early days of appendicitis in which great divergence of opinion was made manifest, from the practitioner who rarely saw a case to the equally honest man who saw them frequently but always cured them without trouble. We have gone through the same controversy as to the surgical treatment of gallstones and other diseases.

There are a number of careful observers who predict that the ultimate field of gastric surgery will be small, and that the diagnosis of surgical conditions can not often be made; but this was equally true of the early days of appendicitis, of gallstone disease and of pyosalpinx.

I think no unprejudiced person can doubt the conclusion that gastric and duodenal ulcers and associated disorders are more frequent maladies than we have been led to believe, and also that ulcer or some of its numerous complications, may and often does produce a train of symptoms which medicine is powerless to cure permanently.

What percentage of gastric and duodenal ulcers may be expected to be cured by medical means? Five hundred cases treated medically in the London Hospital in the five years from 1897 to 1902 gave a percentage of 18 for the death rate, and 42 per cent. were not cured at the time of discharge. As 211 of the 500 had been cured one or more times of previous attacks, who can predict the future history of the 40 per cent. discharged as cured?

Greenough and Joslin, of the medically treated ulcers in the Massachusetts General Hospital, showed that only 55 per cent. were discharged as cured, and 56 per cent. of these supposed cured were dead or still suffering at the time the report was made, five years later. Mumford reports only 4 per cent. of gastric dilatations resulting from ulcer, as cured medically, out of 122 cases in the Massachusetts General Hospital. Russell's statistics, derived from a large number of out-patients, show that 42.6 per cent. of gastric ulcers recovered; but as it was the first attack in 27.7 per cent. and might therefore be called acute, this gives a recovery of only 14.9 per cent. of the chronic cases. The balance either died or continued to suffer (Blake). Munro well remarks, "Is it surprising that an increasing number of ulcer subjects are spontaneously seeking surgical relief?"

It is wise to be conservative and to compel each new departure to bring its own proof. What results can surgery show in this field? First, it has demonstrated the clinical frequency of ulcer of the stomach and duodenum, not a *new* thing, because it has been shown for years in the autopsy records as already pointed out; second, it has developed a symptomatology which enables the diagnosis to be made, and has demonstrated the operative curability of ulcer and certain associated disorders. Surgery has brought back to a safe ground a large num-

V 45
1905

majority of well-selected subjects recover definitely; but a minority give less favorable results, and operating for purely medical indications leads to unscientific and at times indiscriminate resort to operation. Especially is this true of that vast army of neurasthenics with gastric symptoms depending on a neurosis; a complaint simulating ulcer, a prolapsed, splashy stomach, a too ready diagnosis followed by an ill-advised gastroenterostomy. The fact that the stomach appears to be normal is explained by the known inability always to locate a mucous ulcer. This is not a fanciful nor overdrawn picture. There is seldom a week but several such cases present themselves at our clinic and are refused operation. Many of them have already had their movable organs fixed (kidney and uterus) and the removable ones removed (ovaries, appendix, etc.), and now are anxious to secure relief by a further resort to the knife. That such cases are frequently operated on can not be questioned, and that they will tend to bring surgery of the stomach into disrepute is equally certain. The so-called atonic dilatations are not often greatly benefited by operation unless there is marked and persistent delay of food in the stomach. This group is closely allied to the neurasthenic class, and the individual case must be carefully considered, with a prejudice against operation unless it can be clearly shown to be indicated. Fortunately, the field of gastric surgery is too large for a few of these unfortunate instances to affect the general results, but I would urge on the profession the necessity of eliminating the neurasthenic from the field unless the signs and symptoms of ulcer are distinct. Of course the nervous condition is no valid reason for refusing to relieve actual disease.

There are some problems closely related with the non-indurated ulcer which are but little understood, and one of the most important of these is pyloric spasm. The *x*-ray experiments of Cannon have been very interesting in this connection, showing that the fundus of the stomach is the storehouse where maceration takes place, and the muscular, pyloric end the active agent in kneading the ingesta into a homogeneous whole. Numerous observations at the operating table have convinced us that pyloric spasm is not due to a contraction of the pyloric sphincter alone, but of any part or all of this end of the stomach.

There is undoubtedly, also, such an entity as chronic contraction of the pyloric muscle without actual demonstrable lesion, and in such a degree as to be the only evident cause of gastric dilatation, stagnation of food and chronic distress. A serious form of interference with gastric motility has been noted by Ochsner, Finney, Munro and others, as well as by myself, in which there is chronic dilatation of the stomach and duodenum as far as the common duct of the liver, giving rise to many of the symptoms of obstruction. Ochsner believes this condition is due to a pathogenic contraction of a normal excess of muscle in the second portion of the duodenum, which he has demonstrated anatomically. Another variety of interference with gastric motility is the not rare condition of "valve formation," in which a high lying pylorus is held taut by a short gastrocolic omentum. I have met with a small number of such cases, three of which were reported before the surgical section of the American Medical Association at Atlanta, May, 1896.

From our personal experience no conclusions can be drawn, but at present we do not advise operation in any case of acute ulcer, although certain complications such as perforation, hemorrhage and grave obstruction may compel its speedy performance. We do not advise operation in chronic ulcer or its associated diseases until careful and prolonged medical treatment has failed to permanently cure, and we strongly advise against operation in neurotic individuals with prolapse of the stomach. We advise operation in all cases of stagnation and retention of food depending on mechanical causes such as pyloric obstruction, and in cases of exhausting hemorrhages. We advise and practice operation in that considerable group of chronic cases with acute exacerbations, in whom frequent relapses with their attendant disabilities prevent the patient from the enjoyment of good health. It is this latter group which reminds us forcibly of the early days of appendicitis in which great divergence of opinion was made manifest, from the practitioner who rarely saw a case to the equally honest man who saw them frequently but always cured them without trouble. We have gone through the same controversy as to the surgical treatment of gallstones and other diseases.

There are a number of careful observers who predict that the ultimate field of gastric surgery will be small, and that the diagnosis of surgical conditions can not often be made; but this was equally true of the early days of appendicitis, of gallstone disease and of pyosalpinx.

I think no unprejudiced person can doubt the conclusion that gastric and duodenal ulcers and associated disorders are more frequent maladies than we have been led to believe, and also that ulcer or some of its numerous complications, may and often does produce a train of symptoms which medicine is powerless to cure permanently.

What percentage of gastric and duodenal ulcers may be expected to be cured by medical means? Five hundred cases treated medically in the London Hospital in the five years from 1897 to 1902 gave a percentage of 18 for the death rate, and 42 per cent. were not cured at the time of discharge. As 211 of the 500 had been cured one or more times of previous attacks, who can predict the future history of the 40 per cent. discharged as cured?

Greenough and Joslin, of the medically treated ulcers in the Massachusetts General Hospital, showed that only 55 per cent. were discharged as cured, and 56 per cent. of these supposed cured were dead or still suffering at the time the report was made, five years later. Mumford reports only 4 per cent. of gastric dilatations resulting from ulcer, as cured medically, out of 122 cases in the Massachusetts General Hospital. Russell's statistics, derived from a large number of out-patients, show that 42.6 per cent. of gastric ulcers recovered; but as it was the first attack in 27.7 per cent. and might therefore be called acute, this gives a recovery of only 14.9 per cent. of the chronic cases. The balance either died or continued to suffer (Blake). Munro well remarks, "Is it surprising that an increasing number of ulcer subjects are spontaneously seeking surgical relief?"

It is wise to be conservative and to compel each new departure to bring its own proof. What results can surgery show in this field? First, it has demonstrated the clinical frequency of ulcer of the stomach and duodenum, not a *new* thing, because it has been shown for years in the autopsy records as already pointed out; second, it has developed a symptomatology which enables the diagnosis to be made, and has demonstrated the operative curability of ulcer and certain associated disorders. Surgery has brought back to a safe ground a large num-

ber of ulcer victims who, after repeated medical cures had taken to fakers, patent medicine venders, christian (?) science (?) or were making the best of their condition and using patent foodless foods and a restricted diet. In doing even this much, surgery has been open to sound criticism, first on the occasional selection of an unfortunate case for operation, and second on the occasional unsatisfactory results of operative interference both as to mortality and permanence of cure. It is the surgeon's duty to overcome this prejudice by furnishing better results.

The history of successful gastric surgery is not more than five years old, and the best of it not over two years' duration. The medical man must discard the older statistics as to technic and mortality which have become merely venerable relics, and do not at all represent advanced surgical thought on the subject. It is certainly discouraging to turn to the newer works on medicine and find not the slightest attempt made to show the advance which surgery has made, and the question of surgical relief being arbitrarily determined by the achievements of two decades ago.

Surgery is essentially mechanical and must benefit the patient in a mechanical way to a large extent (Fig. 1). Most surgical questions connected with chronic ulcer arise from interference with good stomach drainage, either by actual obstruction or by muscular spasm, so that the food and secretions are subjected to delay in that part of the stomach lying to the left of the pyloric muscular portion (the pyloric portion is that part covered by the lesser curvature), and the method of relief which has the largest field of usefulness consists of gastrojejunostomy made on a line perpendicular with the cardiac orifice of the stomach (Fig. 2). This will usually be found to be the most dependent portion. The opening must be placed on the posterior wall, at the very bottom of the gastric cavity, and should extend anteriorly ¼ inch, so that the jejunum is mortised on to the stomach (Fig. 2). The line of the gastric opening should be that of Moynihan, oblique from above down and left to right (Fig. 3). The jejunum should be anastomosed within three inches of its origin (Fig. 3) so that there shall be no loop (Fig. 4). After an experience of somewhat over 500 gastroenterostomies, including gastroduodenostomies and pyloroplasties, we have come to Peterson's conclusion, that the loop has been responsible for the greater part of the evils arising after gastrojejunostomy, such as biliary regurgitant vomiting (vicious circle). The intestine should be secured so high that there can be little loss of nutrient absorbents. The straight drop of the bowel gives protection against secondary jejunal ulcer by the constant presence of the alkaline biliary and pancreatic secretions, and also adds to the security against future complications. There is no doubt that contraction of the opening is less liable to take place if there is no loop to make traction. As to mortality, we have had less than 3 per cent. mortality in our last 150 suture operations, and in the last 81 cases of benign disease there has been but 1 death. These results are no better than those of Ochsner, Murphy, Munro, Deaver and others in this country, and Robson, Moynihan, Mikulicz, Kocher, Hartman and others abroad.

The operation here advocated has given us better results than any other which we have tried, but we have had two cases of chronic bile regurgitation occur, evidently due to faulty technic. In both patients there has been great relief of the original symptoms and in neither has the complication as yet been of sufficient moment to require a second operation.

Next to gastrojejunostomy, the operation of gastroduodenostomy, devised by Finney, is of the greatest value. It is especially suited to narrow strictures. In open ulcer it does not drain the stomach to the proximal side of the muscular pyloric region, and the food must still pass into the ulcer area to reach the outlet. The pyloroplasty of Hoeinke Mikulicz is now but little practiced and the method of closure is of the utmost importance after an ulcer is excised. As a matter of fact, the pyloroplastic principle has been one of the great factors in modern plastic surgery. The operation of Rodman, consisting of a complete excision of the entire ulcer-bearing muscular pyloric end of the stomach, with independent gastrojejunostomy, will gain ground in the future. Graham has found a good precancerous history of ulcer or associated disorders in 36 per cent. of our operated cases of cancer of the stomach, and clear evidence of cancer development on ulcer in 30 per cent. of the last 40 pylorectomies and partial gastrectomies; certainly an argument for the radical operation. Excision of the ulcer may be of value in a small group of cases if there be no obstruction and one is sure that only one ulcer exists.

Admitting that the technic and mortality of gastric surgery is satisfactory, have the patients been relieved? Excluding some cases of bad selection, I can conscientiously say that we are doing no kind of surgery to-day which gives more pleasing results in properly selected subjects than in the field of chronic gastric and duodenal ulcer and associated disorders. The disappointments have been due to inability to secure and maintain good stomach drainage through imperfect technic, rather than failure of a properly executed operation to relieve. While gastrojejunostomy has the largest field of usefulness, we must not look upon it as a cure-all. It is purely a drainage operation. If the stomach is not dilated and the pylorus be unobstructed, the food will continue to pass out the normal outlet and the patient will not be benefited. For this reason, indurated ulcers with definite mechanical lesions give far better results than non-indurated ulcers in which obstructions are not found, and it is this latter group which gives a considerable percentage of secondary operations and complications. We can not agree with the opinion which has recently been advanced that gastrojejunostomy should be done almost regardless of the condition present. There is nothing mysterious about this valuable operation. It permits retained secretions and ingesta to readily escape. If motility is normal it has little function.

In conclusion let me call your attention to the vast importance of this subject as it enables us to differentiate the benign from the malignant diseases of the stomach. Nearly one-third of all cancers in the human body are in the stomach. In 70 cases in which we have excised a large part of the stomach, we have had 4 cancer cases live more than three years, 3 are still alive and without return. We have a number alive over two years and the majority live a year. The average mortality was 12 per cent., and in the last 40 cases with the technic published in the *Annals of Surgery*, March, 1904, there were but 2 deaths, a mortality of 5 per cent.

NOTE.—We are often questioned as to the reasons why we have so many stomach operations up in the Northwest. As a matter of fact, these cases represent residents of 26 states and Canada; a little less than 20 per cent. belong to Minnesota.

V 45
1905

# THE EARLY DIAGNOSIS OF GASTRIC ULCER.*

H. D. NILES, M.D.,
SALT LAKE CITY, UTAH.

For a long time hemorrhage, obstructive vomiting and a certain characteristic localized pain were regarded as the essential symptoms of gastric ulcer, and when these classical symptoms were absent this lesion was diagnosed and treated (or mistreated) under other and various names that rarely conveyed any idea of the real causative pathology. In the light of our present knowledge, we must believe that our firm but unfounded faith in these diagnostic tests excluded from rational treatment a large majority of all our cases and persuaded us to make chronic gastritis, gastralgia and dyspepsia responsible for much suffering and not a few deaths that should properly be charged to gastric ulcer.

It was not until the recent advances in stomach surgery permitted us often to observe and study gastric ulcer in life on the operating table that we were made to realize the great frequency and grave importance of this lesion. And it was not until an efficient and promising treatment was developed that the great practical need of making an early diagnosis was felt. Since then we have all been striving to evolve some methods of diagnosis that would not allow a large percentage of our cases to escape early recognition and rational treatment.

Thus far no single symptom or laboratory test has proven sufficient, and until some such infallible indication is discovered we must depend largely one our interpretation of groups of symptoms and our willingness to resort, when necessary, to the exploratory incision.

In determining the relative value of each symptom, or group of symptoms, and in deciding on the indications for an exploratory operation, I believe we must trust to the study and comparison of the early clinical histories of gastric ulcers actually seen in life on the operating table. From our accumulated recorded experiences we may hope ultimately to work out the solution of this problem in diagnostics.

Without any pretense of giving statistical information, I shall crystallize into the fewest possible words the conclusions suggested by my observations in thirty-nine cases and my experience with thirty-six cases. In each of these seventy-five cases I was able to secure the early and later clinical history and to note the actual conditions revealed during the operation.

In sixty-six of these patients (88 per cent.) the initial symptoms were those that might easily be attributed to any mild digestive disturbance. In the remaining nine patients hemorrhage, perforation, acute vomiting, or periodic attacks of intense pain occurred early, and should have insured an early recognition of the real pathology. The average time from the appearance of the first symptom until operation was done was eight years. In five cases which undoubtedly began as ulcer, cancer developed before operative measures were undertaken, and in other cases delay in operation prevented an absolutely perfect result on account of irreparable structural changes. I think, therefore, we may fairly assume that an early diagnosis and prompt rational treatment might in this series of cases have prevented a total of 600 years of suffering, saved five patients from the apprehension of recurring malignant disease, and have secured a comparatively perfect result in each case.

In the face of such figures (and I believe my experience is not very different from that of most operators) no thoughtful student can fail to be impressed with the new and grave responsibility that falls to the diagnostician to-day whenever he is confronted by a patient suffering from any obscure disease of the stomach, however mild the symptoms may be.

In the early stages of at least 85 per cent. of gastric ulcers, none of the generally recognized typical symptoms are present and a diagnosis may seem impossible. It often happens, too, that neither the physician nor the patient is impressed with the serious consequences of delay in determining the causative pathology and no special effort is made to do so until the more suggestive symptoms arise. In spite of these difficulties, I think there are diagnostic aids that may guide us to an early and correct conclusion in the majority of these obscure cases.

*First:* In making a differential diagnosis, I think we should take into consideration the frequency of ulcer as compared with other stomach lesions. We should remember that the physiologic functions and the anatomic structure and relations of the stomach render it especially susceptible to ulceration, and that on the postmortem table, as well as in the operating room, ulcer is found more frequently than all other pathologic lesions of the stomach combined. Indeed, it is estimated that not less than 5 per cent. of the human race are afflicted at some period of their lives with gastric ulcer. This knowledge of the relative frequency of ulcer should not only be accepted as a proved theory in our libraries, but it should be applied in the consulting room and at the bedside in weighing the evidence for or against gastric ulcer.

*Second:* We should remember the influence of age, trauma and habits on the development of this pathology. The average age of patients operated on was 41; the greatest number was between 38 and 48 years old; the next greatest between 18 and 28, and the fewest between 28 and 38. Hence I am led to believe that the two periods in which stomach ulcer is most likely to occur and to produce urgent symptoms are either during the years of most rapid development or near the age that degenerative changes begin. During the intervening period the ulcer is frequently quiescent. The age of the patient is therefore significant, and should be taken into consideration in estimating the probability of ulceration. Thirty-five of the patients were male and forty female, not enough difference to merit consideration.

Of the patients operated on between the ages of 18 and 28 years, few led very active lives, while the reverse was true of those operated on past middle life. Many in the latter class engaged in rather violent exercise, such as horseback riding, etc. My observations would lead me to believe that trauma or any exercise that holds the stomach in a strained or immobile position may be a rather important factor in the production of ulcer, especially in the middle aged. The young rarely give a previous history that is suggestive; the middle aged, on the contrary, either refer to attacks of pain in early life or we find their distress is associated with trauma or habits or work or exercise that may be an exciting cause. In this way the occurrence of duodenal ulcer after an extensive burn may be explained on the ground that the stomach and duodenum are involuntarily held in a strained or immobile position a long time.

*Third:* We can and should narrow the field of dif-

* Read in the Section on Surgery and Anatomy of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

ferential diagnosis by excluding other possible constitutional and local causes of the symptoms.

*Fourth:* We will eliminate this most common source of error if we remember that gastritis, indigestion and gastralgia are the most constant results, and hyperacidity the most common cause of gastric ulcer. Hence all the symptoms of gastritis, gastralgia and so-called dyspepsia may have an ulcer as a primary cause, while hyperacidity, if persistent, points strongly to the existence or the coming of an ulcer. At least those of us who believe that ulcer of the stomach, like ulcer in other parts of the body, depends usually on local causes, must also consider that the digestive properties of the *normal* gastric juice can only produce local necrosis where a part of the stomach wall is immobilized by adhesions or muscular spasm, or is partially devitalized by the presence of an old cicatrix or by infected emboli carried by the vascular omentum from remote or nearby intraperitoneal infection, such as a gall-bladder, appendiceal or pelvic, inflammation might furnish. As these conditions do not prevail often it is fair to assume that in a majority of cases the fault lies in the exaggerated corrosive or excessive digestive properties of the gastric juice and is not due to any previous defect in the stomach walls. It may be said further that so far as examinations of the gastric contents have been made in the early stages of gastric ulcer, then tend to confirm the belief that hyperacidity is by far the most common cause of ulcer and that it is certainly one of the most significant symptoms.

*Fifth:* We should attach importance as to whether or not the continuance of the symptoms is favorably influenced by medicinal or dietetic measures. In other words, if the stomach ailment is of long duration or occurs or recurs without apparent cause, it is probably due to a real pathology, rather than to a transient functional disturbance, and the causative factor is most likely to be ulcer. Hyperacidity associated with chronicity points strongly to ulcer.

*Sixth:* It may help us to recall that the ulcer that occurs in the period of most rapid development (that is between 18 and 28 years) is nearly always due to hyperacidity alone, and often cicatrizes with proper treatment or even without treatment; while the ulcer that is found in patients past middle age is more likely to be due to degenerative changes in the scar of an old ulcer that may have been quiescent for years, but which when the reparative powers of nature begin to decline is likely to remain open and give serious trouble unless relieved by surgical measures. The first form of ulcer is due to an imperfect adjustment of the secretory functions, and the last to Nature's inability to protect scar tissue from the digestive effects of the normal gastric juice. In this connection the rule holds good that any inflammatory lesion of the alimentary canal when confined to the mucosa, can not be recognized by palpation, and may yield to non-surgical treatment; but an ulcer that includes the peritoneal coat can be felt during operation and is always a surgical lesion.

*Seventh:* When, governed by these thoughts, we have made a painstaking investigation of a patient suffering from an obscure stomach trouble and have weighed the history and each symptom carefully and are still in doubt, we should consider the advisability of applying the crucial test, viz., making an exploratory incision. We are all prone to postpone this operation, but with the assurance of perfect safety our improved technic gives, and the dangers of a delayed diagnosis in mind, I feel sure that it should always be done when in doubt, and the preponderance of evidence indicates the probability of ulcer. To wait for the appearance of obstructive symptoms, perforation, hemorrhage, tumor, or involvement of nearby structures to confirm a strong suspicion of ulcer would mean that we contend with a resultant pathology in every instance, and is nearly equivalent to waiting for abscess formation before operating for appendicitis.

Our new symptomatology of gastric ulcer is only just beginning to be formed; but we who essay to do surgery may know that when it is perfected it will be based on a clearer mental picture of the antecedent existing and resultant pathology drawn not alone from dead house findings and laboratory researches, but from observations on living subjects in our operating rooms.

## THE M'GRAW LIGATURE.*

A. J. OCHSNER, B.S., F.R.M.S., M.D.
Surgeon-in-Chief of Augustana Hospital and St. Mary's Hospital; Professor of Clinical Surgery in the Medical Department of the University of Illinois.
CHICAGO.

More than fifteen years ago, Theodore A. McGraw invented a method of intestinal anastomosis by means of an elastic ligature. As chairman of the Section on Surgery and Anatomy of this Association, he described this method in his address and it was published in THE JOURNAL of the American Medical Association May 16, 1891.

The method was tried by its author in a large number of experiments on dogs and twice on human beings before this report was made. He then abandoned the method and employed in its place the Murphy button, which was introduced in 1892.

It was not until 1900 that McGraw again brought his method prominently before the medical profession in a paper read before the Mississippi Valley Medical Society[1] at Put-in-Bay.

Singularly enough, I listened to the papers at both of these meetings, but did not have the courage to employ this method of anastomosis until December, 1902, after seeing McGraw demonstrate his plan on the dog.

It seemed to be a thoroughly reasonable method, but it seemed to involve more risk than was proper without having seen the actual application of the various steps as they had been developed experimentally by the author.

He had demonstrated for me the various steps on artificially prepared organs, but the impression was quite different from that obtained when the operation was performed on the living animal.

After seeing the operation, I was convinced that its application was justifiable.

Since that time I have used the method 156 times and I have come to the following conclusions:

1. Anastomosis with the McGraw elastic ligature can be accomplished in a satisfactory way (a) between stomach and intestines, (b) between intestine and intestine.
2. The opening can be made any desired length.
3. It can be made without carrying infectious material from the lining of the stomach or intestine to the peritoneum.
4. It can be performed quickly.
5. It requires no special skill or ingenuity.

* Read in the Section on Surgery and Anatomy of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

1. New York Med. Jour., Jan. 26, 1901.

CLINICAL EXPERIENCE WITH McGRAW LIGATURE.

| No. | Age. | Sex. | Occupation. | Admission. | Discharge. | Diagnosis. | Complications. | Treatment. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 39 | F | House wife. | 1/1/03 | 2/1/03 | Carcinoma of stomach..... | None..... | Gastroenterostomy, McGraw ligature. | Carcinoma involving entire posterior wall of stomach. |
| 2 | 49 | M | Piano key maker. | 1/27/03 | 2/11/03 | Carcinoma of stomach..... | Tumor involv'd retroperitoneal glands. | Gas roenterostomy, McGraw ligature. | Carcinoma involving posterior wall of stomach and retroperitoneal glands |
| 3 | 37 | M | Farmer. | 2/1/03 | 3/1/03 | Pyloric obstruction, ulcer, dilated stomach. | None..... | Gastroenterostomy, McGraw ligature. | Ulcer 3 c. m. in diameter at pylorus. |
| 4 | 39 | F | House wife. | 2/2/03 | 2/22/03 | Pyloric obstruction, non-malignant. | None..... | Gastroenterostomy, McGraw ligature. | Cicatricial contraction of pylorus. |
| 5 | 37 | M | Railr'd man. | 2/14/03 | 3/12/03 | Chronic appendicitis, pyloric obstruction. (cicatricial ?) | Chronic appendicitis. | Gastroenterostomy, McGraw ligature; excised appendix. | Large indurated mass about pylorus, apparently cicatricial. |
| 6 | 39 | F | House work. | 2/21/03 | 3/29/03 | Pyloric obstruction from ulcer. | None..... | Gastroenterostomy, McGraw ligature. | Some induration of pylorus with enlargement of glands about. |
| 7 | 45 | M | Coal miner. | 3/24/03 | 4/7/03 | Chronic appendicitis, carcinoma of stomach, adherent gall bladder. | Chronic appendicitis. | Gastroenterostomy, McGraw ligature. | Large carcinomatous mass near pylorus. |
| 8 | 35 | F | House work. | 3/28/03 | 4/27/03 | Right femoral hernia, right ovarian cyst, carcinoma of stomach, gallstones. | Gallstones..... | Gastroenterostomy, McGraw ligature; removal of fifty gallstones; herniotomy. | Carcinoma of pylorus with glands extensively involved. |
| 9 | 32 | F | House work. | 4/3/03 | 5/2/03 | Pyloric obstruction..... | None..... | Excised pylorus; enlarged old gastroenterostomy opening by means of McGraw ligature. | Had gastroenterostromy by means of Murphy botton 6 months previously for cicatricial stenosis. |
| 10 | 39 | F | House wife. | 4/10/03 | 5/1/03 | Gallstones, pyloric obstruction, chronic pancreatitis. | Gallstones and chronic pancreatitis. | Gastroenterostomy, McGraw ligature; 27 gallstones removed. | Marked hypertrophy of tissue about pylorus with obstruction. |
| 11 | 29 | F | Laundry girl. | 4/26/03 | 6/18/03 | Chronic appendicitis, dilated stomach. | Chronic appendicitis. | Finney's operation by means of McGraw ligature. | Found gastroptosis. |
| 12 | 39 | F | House wife. | 5/9/03 | 5/23/03 | Chronic appendicitis, pyloric obstruction, cicatricial; general enteroptosis. | Chronic appendicitis. | Gastroenterostomy, McGraw ligature. | Cicatricial stenosis of pylorus and general enteroptosis. |
| 13 | 27 | M | Pianofinis'r. | 5/26/03 | 6/2/03 | Cicatricial constriction of pylorus. | None..... | Finney's operation by means of McGraw ligature. | Found cicatricial contraction of pylorus; no relief of symptoms for six weeks. |
| 14 | 33 | M | Coachman. | 5/27/03 | 7/15/03 | Non-malignant stricture of pylorus. | None..... | Gastroenterostomy, McGraw ligature; closure of pylorus by placing silver wire around. | Cicatricial contraction of pylorus, greatly dilated stomach. |
| 15 | 38 | M | Farmer. | 6/1/03 | 6/20/03 | Carcinoma of stomach, pyloric obstruction. | None..... | Gastroenterostomy, McGraw ligature. | No vomiting, but patient has had daily gastric lavage for four months. |
| 16 | 34 | F | Cook.. | 6/1/03 | 6/27/03 | Pyloric obstruction from old ulcer. | None..... | Gastroenterostomy, McGraw ligature; closed pylorus by passing silver wire around. | Cicatricial stenosis of pylorus. |
| 17 | 44 | F | House wife. | 6/2/03 | 7/2/03 | Dilated stomach, pyloric obstruction, non-malignant. | Cholecystitis. | Gastroenterostomy, McGraw ligature. | Pylorus small; stomach greatly dilated. |
| 18 | 25 | F | House wife. | 6/10/03 | 7/5/03 | Ulcer of stomach, pyloric obstruction. | None..... | Gastroenterostomy, McGraw ligature. | Small ulcer of pylorus; large scar on lower border near pylorus. |
| 19 | 40 | F | House wife. | 6/16/03 | 7/18/03 | Ulcer of stomach, pyloric obstruction, ovarian cyst. | Ovarian cyst | Gastroenterostomy, McGraw ligature; excised right ovary and tube. | Large ulcer posteriorly, near pylorus. |
| 20 | 36 | F | House wife. | 6/16/03 | 7/10/03 | Carcinoma of stomach..... | None..... | Gastroenterostomy, McGraw ligature. | Carcinoma of pylorus with complete obstruction; extensive enlargement of glands. |
| 21 | 41 | M | Farmer. | 6/27/03 | 8/7/03 | Carcinoma of stomach, chronic appendicitis. | Chronic appendicitis. | Excision of appendix, gastroenterostomy, McGraw ligature. | Carcinoma involving pylorus and pancreas. Patient did fairly well for 3 weeks, then gradually became weaker and died 6 weeks after operation. |
| 22 | 16 | F | School girl. | 6/28/03 | 7/22/03 | Gastric ulcer..... | None..... | Gastroenterostomy, McGraw ligature. | Had operation for appendicitis one year previously; ulcer on inferior surface pylorus. |
| 23 | 21 | F | House-work. | 7/1/03 | 10/22/03 | Gastric ulcer..... | None..... | Gastroenterostomy, McGraw ligature. | Ulcer of posterior wall near pylorus. |
| 24 | 44 | M | Farmer. | 7/4/03 | 7/24/03 | Carcinoma of stomach..... | None..... | Gastroenterostomy, McGraw ligature. | Carcinoma posterior wall; extensive glandular involvement. |
| 25 | 39 | F | House wife. | 7/11/03 | 9/21/03 | Gastric ulcer, pyloric obstruction, peritoneal adhesions. | Cholecystitis.. | Gastroenterostomy, McGraw ligature; drained gall bladder. | A round ulcer on posterior wall of stomach. |
| 26 | 28 | M | Janitor | 7/14/03 | 8/23/03 | Gastric ulcer..... | None..... | Gastroenterostomy, McGraw ligature. | Small ulcer near pylorus. |
| 27 | 19 | F | Laundress. | 7/15/03 | 8/10/03 | Gastric ulcer, pyloric obstruction, adherent gall bladder. | Chronic appendicitis. | Gastroenterostomy, McGraw ligature. | Pylorus adherent to gall bladder. Two large scars, one at pylorus, one on posterior wall of stomach. |
| 28 | 27 | M | Switchman. | 7/18/03 | 8/9/03 | Chronic appendicitis, pyloric obstructi n, old ulcer. | Chronic appendicitis. | Gastroenterostomy, McGraw ligature; excised appendix. | A scar at pylorus; greatly dilated stomach. |
| 29 | 48 | M | Farmer. | 7/29/03 | 8/23/03 | Dilated stomach, cholecystitis. | Cholecystitis.. | Gastroenterostomy, McGraw ligature; drained gall bladder. | Cicatricial stenosis of pylorus; greatly dilated stomach. |
| 30 | 38 | M | Farming engineer. | 8/4/03 | 9/5/03 | Carcinoma of stomach..... | None..... | Gastroenterostomy, McGraw ligature. | Stomach had two distinct, separate carcinomatous growths, one on anterior and one on posterior wall. |
| 31 | 44 | F | House wife. | 8/13/03 | 9/20/03 | Dilated stomach, varicose veins, hemorrhoids. | Hemorrhoids and varicose veins. | Gastroenterostomy. McGraw ligature. | Had appendix removed 2 years previously; numerous adhesions about pylorus. |
| 32 | 54 | M | Merchant. | 8/22/03 | 9/14/03 | Gastric ulcer, stenosis of pylorus, cholecystitis, pancreatitis, appendicitis obliterans, rigat inguinal hernia, hypertr'y of prostate gland | Cholecystitis pancreatitis chronic appendicitis. | Cholecystostomy, gastroenterostomy, McGraw ligature; excision of appendix. | Greatly dilated stomach; ulcer with marked stenosis; also had cystitis; died three weeks after operation. |
| 33 | 33 | F | House-wife. | 8/30/03 | 10/1/03 | Gastric ulcer, chronic appendicitis. | Chronic appendicitis. | Gastroenterostomy, McGraw ligature; excision of appendix. | Ulcer on anterior wall. |
| 34 | 65 | F | House-wife. | 9/9/03 | 9/24/03 | Carcinoma of stomach, pyloric obstruction. | None..... | Gastroenterostomy, McGraw ligature. | Large carcinoma with complete obstruction; greatly emaciated; died 15 days after operation from exhaustion. |
| 35 | 38 | F | House-wife. | 9/18/03 | 10/18/03 | Gastric ulcer, chronic appendicitis, tubercular salpingitis duplex. | Chronic appendicitis, tuberculous salpingitis. | Gastroenterostomy, McGraw ligature; excision of both tubes, ovaries and appendix. | Ulcer on posterior wall of pylorus; both ovaries and tubes and uterus covered with tubercles. |
| 36 | 43 | M | Janitor | 9/15/03 | 10/31/03 | Gastric ulcer, chronic appendicitis, varicocele, left; hydrocele, right. | Chronic appendicitis. | Gastroenterostomy, McGraw ligature, excision of appendix; excision of varicocele, inversion tunica vaginalis. | Ulcer size of twenty-five cent piece on anterior wall. |
| 37 | 47 | F | House-wife. | 9/28/03 | 11/4/03 | Carcinoma of stomach..... | None..... | Gastroenterostomy, McGraw ligature. | Large carcinoma on anterior wall near pylorus involving pancreas. |
| 38 | 42 | M | Farmer. | 10/13/03 | 11/3/03 | Pyloric obstruction. | None..... | Gastroenterostomy, McGraw ligature. | A hard cicatricial ring about pylorus. |
| 39 | 28 | F | None... | 10/13/03 | 11/16/03 | Gastric ulcer and chronic appendicitis. | Chronic appendicitis. | Gastroenterostomy, McGraw ligature; appendix removed. | Ulcer size of a nickel on anterior wall near pylorus. |
| 40 | 40 | M | Farmer. | 10/14/03 | 11/25/03 | Ulcer of stomach (?) Carcinoma. | None..... | Gastroenterostomy, McGraw ligature. | A thickened area in lesser curvature of stomach: impossible to say whether ulcer or malignant. |

CLINICAL EXPERIENCE WITH MCGRAW LIGATURE.—Continued.

| No. | Age. | Sex. | Occupation. | Admission. | Discharge. | Diagnosis. | Complication. | Treatment. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|
| 41 | 39 | M | Farmer. | 10/28/03 | 11/30/03 | Ulcer of stomach, cholecystitis. | Cholecystitis. | Gastroenterostomy, McGraw ligature; drained gall bladder. | Ulcer on posterior wall near pylorus. |
| 42 | 32 | F | Housewife. | 11/10/03 | 12/21/03 | Contracted gastroenterostomy opening, intestinal adhesions. | Intestinal adhesions. | Enlarged old gastroenterostomy opening by means of McGraw ligature. | Had gastroenterostomy opening made eighteen months ago; enlarged by McGraw ligature seven months ago. |
| 43 | 39 | M | Cabinetmaker. | 12/6/03 | 1/19/04 | Appendicitis, carcinoma of pylorus. | Chronic appendicitis. | Gastroenterostomy, McGraw ligature; excised appendix. | Indurated area on posterior wall of stomach near pylorus; question as to malignancy. |
| 44 | 39 | F | Housewife. | 1/2/04 | 1/4/04 | Carcinoma of stomach, obstruction of pylorus. | Gallstones. | Gastroenterostomy, McGraw ligature. | Carcinoma involving pancreas; complete obstruction of pylorus; greatly emaciated; died from shock, 2d day. |
| 45 | 34 | M | Barn hand. | 1/4/04 | 2/4/04 | Carcinoma of stomach. | None. | Gastroenterostomy, McGraw ligature. | Carcinoma involving pylorus, gall bladder and pancreas. |
| 46 | 32 | F | Housewife. | 1/5/04 | 1/31/04 | Ulcer of pylorus, peritoneal adhesions. | Peritoneal adhesions. | Gastroenterostomy, McGraw ligature. | Ulcer of pylorus; adjacent glands enlarged. |
| 47 | 39 | F | Housewife. | 1/10/04 | 4/6/04 | Ulcer of stomach, peritoneal adhesions. | Peritoneal adhesions. | Gastroenterostomy, McGraw ligature. | Stomach greatly dilated; two scars near pylorus. |
| 48 | 28 | F | Housewife. | 1/12/04 | 2/10/04 | Gastric ulcer. | None. | Gastroenterostomy, McGraw ligature. | A thickened scar on anterior wall near pylorus. |
| 49 | 43 | F | Domestic. | 1/14/04 | 2/12/04 | Ulcer of stomach, chronic appendicitis. | Chronic appendicitis. | Gastroenterostomy, McGraw ligature; excised appendix. | Large ulcer on posterior wall near pylorus. |
| 50 | 51 | M | Farmer. | 1/15/04 | 2/21/04 | Chronic appendicitis, ulcer of stomach. | Chronic appendicitis. | Gastroenterostomy, McGraw ligature; excised appendix. | Ulcer near pylorus. |
| 51 | 30 | F | Seamstress. | 1/21/04 | 3/1/04 | Ulcer of stomach, chronic appendicitis. | Chronic appendicitis. | Gastroenterostomy, McGraw ligature; excised appendix. | Ulcer posterior surface of pylorus. |
| 52 | 37 | F | Housewife. | 1/28/04 | 2/18/04 | Chronic appendicitis, double salpingitis, dilated stomach | Chronic appendicitis, salpingitis. | Gastroenterostomy, McGraw ligature; excised appendix, left ovary and tube. | Stomach greatly dilated. Old ulcer near pylorus. |
| 53 | 62 | M | Carp'ater. | 2/4/04 | 2/23/04 | Carcinoma of stomach. | None. | Gastroenterostomy, McGraw ligature. | Carcinoma involving posterior wall of stomach. |
| 54 | 42 | M | Dealer in notions. | 2/11/04 | 2/28/04 | Carcinoma of stomach and mesenteric glands. | None. | Gastroenterostomy, McGraw ligature. | Large carcinoma with complete obstruction; greatly emaciated; died from exhaustion fifteen days later. |
| 55 | 36 | F | Housewife. | 2/16/04 | 2/25/04 | Cholelithias, obstructed pylorus. | Gallstones. | Gastroenterostomy, McGraw ligature; enlarging old gastroenterostomy opening; removed G. S. | Found old gastroenterostomy opening made by Murphy button size of lead pencil; died nine days after operation from exhaustion and starvation. |
| 56 | 31 | F | Housewife. | 2/18/04 | 3/23/04 | Carcinoma of stomach. | None. | Gastroenterostomy, McGraw ligature. | Carcinoma in smaller curvature of stomach. |
| 57 | 29 | F | Housewife. | 2/22/04 | 3/23/04 | Ulcer of stomach. | None. | Gastroenterostomy, McGraw ligature. | Large ulcer posterior wall of stomach near pylorus. |
| 58 | 30 | M | Farmer. | 2/24/04 | 3/18/04 | Contracted gastroenterostomy opening. | None. | Enlarged gastroenterostomy opening by needle and thread; cut of jejunum on side and made end to end anastomosis of this with descending loop of jejunum. | Found old gastroenterostomy opening only large enough to admit tip of little finger. |
| 59 | 30 | M | Painter. | 2/28/04 | 3/16/04 | Carcinoma of stomach. | None. | Gastroenterostomy, McGraw ligature. | Large carcinoma on anterior wall near pylorus. |
| 60 | 29 | F | At home. | 3/3/04 | 3/24/04 | Ulcer of stomach. | Chronic appendicitis. | Gastroenterostomy, McGraw ligature; excised appendix. | Ulcer in posterior wall near pylorus. |
| 61 | 29 | F | Nurse. | 3/29/04 | 4/25/04 | Ulcer of stomach, chronic appendicitis. | Chronic appendicitis. | Gastroenterostomy, McGraw ligature; excised appendix. | Ulcer in posterior wall near pylorus. |
| 62 | 39 | M | Farmer. | 3/30/04 | 4/18/04 | Carcinoma of pancreas and stomach. | None. | Gastroenterostomy, McGraw ligature. | Carcinoma involving pancreas, stomach and duodenum. |
| 63 | 48 | F | Housewife. | 4/6/04 | 6/4/04 | Dilated stomach, cholecystitis, peritoneal adhesions. | Cholecystitis, peritoneal adhesions. | Gastroenterostomy, McGraw ligature; drainage of gall bladder. | Gall bladder adherent to pylorus; stomach greatly dilated. |
| 64 | 25 | F | Domestic. | 4/29/04 | 5/12/04 | Ulcer of stomach, chronic appendicitis. | Chronic appendicitis. | Gastroenterostomy, McGraw ligature; excised appendix. | Ulcer on anterior wall near branch of gastrocolpicic artery. |
| 65 | 34 | F | Housewife. | 5/1/04 | 5/31/04 | Obstruction of sigmoid. | None. | Anastomosis between ileum and sigmoid by McGraw ligature. | A very marked narrowing of colon at splenic flexure. |
| 66 | 47 | F | Housewife. | 5/3/04 | 6/4/04 | Ulcer of stomach, cholecystitis. | Cholecystitis. | Gastroenterostomy, McGraw ligature; drained gall bladder. | Ulcer on posterior wall of stomach near pylorus. |
| 67 | 36 | M | Painter. | 5/28/04 | 6/15/04 | Carcinoma of stomach. | None. | Excised pylorus together with three-fourths of stomach; gastroenterostomy, McGraw ligature. | Carcinoma of pylorus. |
| 68 | 45 | F | Housewife. | 5/29/04 | 7/4/04 | Pyloric obstruction, old ulcer. | Chronic appendicitis. | Gastroenterostomy, McGraw ligature; excised appendix. | Large scar of pylorus. |
| 69 | 41 | M | Farmer. | 6/3/04 | 6/28/04 | Carcinoma of stomach involving liver and pancreas. | Carcinoma liver and pancreas. | Gastroenterostomy, McGraw ligature. | Carcinoma of lesser curvature involving liver and pancreas; almost complete obstruction of pylorus. |
| 70 | 35 | F | Housewife. | 6/28/04 | 8/18/04 | Gastric ulcer, cholecystitis, hemorrhoids. | Cholecystitis, hemorrhoids. | Gastroenterostomy, McGraw ligature; cholecystostomy, clamp and cautery for hemorrhoids. | A large hard area on posterior wall of stomach near pylorus, probably ulcer. |
| 71 | 37 | M | Farmer. | 7/6/04 | 7/20/04 | Ulcer of stomach, chronic pancreatitis, chronic appendicitis. | Ulcer, chronic pancreatitis chronic appendicitis. | Gastroenterostomy, McGraw ligature; excised appendix. | Large ulcer anterior wall of pylorus extending into duodenum; small ulcer on posterior wall of stomach near pylorus; appendix cicatricial. |
| 72 | 48 | M | Farmer. | 7/19/04 | 8/12/04 | Carcinoma of stomach. | None. | Gastroenterostomy, McGraw ligature. | Carcinoma of posterior wall, causing almost complete obstruction; retroperitoneal glands involved. |
| 73 | 34 | F | Housewife. | 7/19/04 | 8/2/04 | Carcinoma of stomach. | None. | Gastroenterostomy, McGraw ligature. | Large carcinoma of anterior wall involving transverse colon. |
| 74 | 51 | M | None. | 7/27/04 | 8/18/04 | Carcinoma of descending colon. | None. | Anastomosis between ileum and sigmoid with McGraw ligature. | Carcinoma of descending colon too extensive to be removed; obstruction. |
| 75 | 43 | F | Housewife. | 9/1/04 | 9/28/04 | Gastric ulcer, chronic appendicitis, chronic pancreatitis. | Chronic appendicitis, pancreatitis. | Gastroenterostomy, McGraw ligature; excised appendix. | Ulcer on posterior wall near pylorus; appendix adherent and three-fourths cicatricial. |
| 76 | 44 | M | Farmer. | 9/2/04 | 9/25/04 | Gastric ulcer. | None. | Gastroenterostomy, McGraw ligature. | Ulcer of posterior wall near pylorus. |
| 77 | 15 | F | Domestic. | 9/3/04 | 9/22/04 | Gastric ulcer, chronic appendicitis, cholecystitis. | Chronic appendicitis, cholecystitis. | Gastroenterostomy, McGraw ligature, cholecystostomy; excised appendix. | Ulcer of anterior wall of stomach; appendix thick and congested; gall bladder contained thick, dark, sandy bile. |
| 78 | 41 | M | Brickmaker. | 9/6/04 | 9/18/04 | Carcinoma of stomach. | None. | Gastroenterostomy, McGraw ligature. | Carcinoma of anterior wall of stomach, extensive grandular involvement. |
| 79 | 33 | F | Housewife. | 9/6/04 | 10/4/04 | Gastric ulcer, chronic appendicitis. | Chronic appendicitis. | Gastroenterostomy, McGraw ligature; excised appendix. | Large ulcer on anterior wall of pylorus; appendix adherent at middle making sharp bend at this point. |
| 80 | 30 | F | Housewife. | 9/8/04 | 10/6/04 | Gastric ulcer, cholecystitis, chronic pancreatitis. | Cholecystitis, pancreatitis. | Gastroenterostomy, McGraw ligature; cholecystostomy. | Ulcer on anterior surface of pylorus; thick dark bile in gall bladder. |
| 81 | 62 | F | Housewife. | 9/13/04 | ..... | Carcinoma of stomach, sarcoma of ovaries. | Sarcoma of both ovaries. | Gastroenterostomy, McGraw ligature; excision of both ovaries and tubes. | Carcinoma of stomach with hour glass condition; retroperitoneal glands involved. |
| 82 | 32 | M | Tinner. | 9/17/04 | 10/9/04 | Gastric ulcer. | None. | Gastroenterostomy, McGraw ligature. | Ulcer on posterior wall of stomach near pylorus. |

V 45
1905

CLINICAL EXPERIENCE WITH MCGRAW LIGATURE.—Continued.

| No. | Age. | Sex. | Occupation. | Admission. | Discharge. | Diagnosis. | Complications. | Treatment. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|
| 83 | 35 | M | Stone cutter. | 10/6/04 | 10/23/04 | Carcinoma of stomach..... | Involvement of pancreas. | Gastroenterostomy, McGraw ligature. | Carcinoma on posterior wall of stomach involving pancreas; patient died from exhaustion 11 ds. after opera'n. |
| 84 | 29 | F | Housewife. | 10/4/04 | ..... | Gastric ulcer..... | None..... | Gastroenterostomy, McGraw ligature. | Ulcer near pylorus. |
| 85 | 27 | F | Domestic. | 10/9/04 | ..... | Gastric ulcer, cholecystitis; chronic pancreatitis. | Cholecystitis, ch. panc'tis. | Gastroenterostomy, McGraw ligature; cholecystostomy. | Ulcer on anterior wall; omentum adherent in pelvis pulling stomach downward. |
| 86 | 17 | F | Domestic. | 10/12/04 | ..... | Duodenal ulcer..... | None..... | Gastroenterostomy, McGraw ligature. | A well-defined ulcer in duodenum. |
| 87 | 29 | F | Housew fe. | 10/18/04 | 11/12/04 | Ulcer of stomach, cholecystitis. | Cholecystitis.. | Gastroenterostomy, McGraw ligature. | |
| 88 | 32 | F | Housewife. | 10/23/04 | 11/27/04 | Ulcer of stomach, cholecystitis. | Cholecystitis.. | Gastroenterostomy, McGraw ligature; cholecystitis. | Two ulcers, one at pylorus: one 3 cm. wide, 1 lesser curvature. Gall bladder sacculated and contained sand and dark bile. |
| 89 | 38 | M | Mechanic. | 10/23/04 | 12/23/04 | Ulcer of stomach, cholecystitis. | Cholecystitis.. | Gastroenterostomy, McGraw ligature; enterostomy of two loops of jejunum, cholecystostomy. | Ulcer on posterior wall; pylorus open; gall bladder contained sand and dark bile. |
| 90 | 46 | M | None.. | 10/31/04 | 12/2/04 | Ulcer of stomach, chronic appendicitis. | Chronic appendicitis. | Gastroenterostomy, McGraw ligature; excised appendix. | Large ulcer suspicious of carcinoma; membrane appendix thick, adherent, mucous, granular. |
| 91 | 30 | M | Miller dealer. | 11/3/04 | 11/24/04 | Ulcer of stomach, chronic appendicitis. | Chronic appendicitis. | Gastroenterostomy, McGraw ligature; excised appendix. | Ulcer on posterior surface of pylorus almost complete obstruction; appendix cicatricial and thick. |
| 92 | 25 | F | Domestic. | 11/3/04 | ..... | Appendicitis, ulcer of stomach and duodenum. | Chronic appendicitis. | Gastroenterostomy, McGraw ligature; excised appendix. | Ulcer near pylorus; also in duodenum; appendix adherent, club shaped. |
| 93 | 29 | F | At home. | 11/17/04 | 12/10/04 | Ulcer of stomach, cholecystitis. | Cholecystitis.. | Gastroenterostomy, McGraw ligature; cholecystostomy. | Ulcer posterior surface near pylorus; gall bladder filled with black sandy bile. |
| 94 | 34 | M | Laborer. | 11/17/04 | 12/10/04 | Pyloric obstruction from adhesions. | ..... | Gastroenterostomy, McGraw ligature. | Adhesions between pylorus and gall bladder diffe. |
| 95 | 40 | F | Housewife. | 11/17/04 | 11/29/04 | Ulcer of stomach. ..... | None ..... | Gastroenterostomy, McGraw ligature. | Patient died from acute dilatation of stomach. |
| 96 | 30 | F | Housewife. | 11/20/04 | 12/24/04 | Ulcer of stomach, ventral hernia. | Ventral hernia. | Gastroenterostomy, McGraw ligature; herniotomy. | Ulcer on posterior wall of stomach; induration for 4 cm. around ulcer. |
| 97 | 22 | F | Domestic. | 11/23/04 | 1/31/05 | Pyloric obstruction from old scar. | Ovarian cyst.. | Gastroenterostomy, McGraw ligature; removed cyst. | Old scar on anterior surface of pylorus; stomach greatly dilated. |
| 98 | 30 | F | Housewife. | 12/1/04 | 1/17/05 | Ulcer of stomach, chronic appendicitis. | ..... | Gastroenterostomy, McGraw ligature; enterostomy of branches of jejunum. | Stomach adherent to anterior abdominal wall; hour-glass condition of stomach; old scar on posterior surface of pylorus. |
| 99 | 29 | F | Dressmaker. | 12/1/04 | 1/17/05 | Ulcer of stomach, chronic appendicitis. | Chronic appendicitis. | Gastroenterostomy, McGraw ligature; excised appendix, enterostomy, McGraw. | Two scars, one on greater curvature, one at pylorus; appendix adherent, necrotic mucous membrane. |
| 100 | 46 | F | Ulcer of stomach. | 1/1/05 | 2/2/05 | Ulcer of stomach..... | ..... | Gastroenterostomy, McGraw ligature; enterocenterostomy, McG. | Ulcer on posterior surface of pylorus. |
| 101 | 34 | F | Housewife. | 1/2/05 | 1/10/05 | Carcinoma of stomach..... | Involvement of panc's omentum, & upper jejunum. | Gastroenterostomy, McGraw ligature; enterocenterostomy. | Patient died from exhaustion. |
| 102 | 32 | F | Housewife. | 1/3/05 | 2/1/05 | Gastroptosis, ulcer of duodenum purulent append'tis. | Purulent append's chronic panere'tis. | Gastroenterostomy, McGraw ligature; excised appendix. | Glands behind duodenum enlarged; appendix contained pus. |
| 103 | 45 | F | Housewife. | 1/7/05 | 2/13/05 | Multiple ulcers of stomach.... | ..... | Gastroenterostomy, McGraw ligature; enterocenterostomy. | Two ulcers near pylorus; one large one on lesser curvature; hour glass constriction of stomach. |
| 104 | 49 | M | Farmer. | 1/17/05 | 1/28/05 | Ulcer of stomach; obstruction of pylorus, cholecystitis. | Cholecystitis.. | Gastroenterostomy, McGraw ligature; enterocenterostomy; cholecystostomy. | Old ulcer on pylorus with much narrowing; gall bladder contained thick sandy bile. Patient died from shock. |
| 105 | 23 | M | Pastry hand. | 1/23/05 | 2/17/05 | Ulcer of pylorus; chronic appendicitis, cholecystitis. | Chronic appendicitis, cholecystitis. | Gastroenterostomy, McGraw ligature; Cholecystostomy, excised appendix. | Ulcer at pylorus; gall bladder distended with thick bile; appendix adherent. |
| 106 | 23 | F | Domestic. | 1/23/05 | 2/13/05 | Ulcer of stomach, cholecystitis. | Cholecystitis.. | Gastroenterostomy, McGraw ligature; cholecystostomy. | |
| 107 | 34 | F | Housewife. | 1/24/05 | 1/29/05 | Ulcer of duodenum, gastrectasis, nephroptosis, lacerated perineum. | Nephroptosis, lacerated perineum. | Gastroenterostomy, McGraw ligature; enterocenterostomy, suture; perineorraphy. | Died acute gastric dilatation. |
| 108 | 24 | F | Clerk.. | 1/31/05 | 2/21/05 | Ulcer of stomach, chronic appendicitis, cholecystitis. | Chronic appendicitis, cholecystitis. | Gastroenterostomy, McGraw ligature; cholecyotostomy, appendectomy. | |
| 109 | 41 | M | Farmer. | 2/1/04 | 2/24/05 | Ulcer of stomach with obstruction of pylorus. | ..... | Gastroenterostomy, McGraw ligature. | Scar on posterior surface of pylorus; regional lymph glands enlarged; gall bladder adherent to pylorus. |
| 110 | 49 | F | Housewife. | 2/3/05 | 2/22/05 | Contracted gastroenterostomy opening. | Obstruction of pylorus. | Enl'r'd gastroenterostomy opening with McG. lig. entero'tomy. | |
| 111 | 23 | F | Housewife. | 2/23/05 | 3/23/05 | Ulcer of stomach..... | Chronic appendicitis. | Gastroenterostomy, McGraw ligature; appendectomy. | Ulcer on posterior wall; appendix sausage-shaped and walls very thick. |
| 112 | 30 | F | Clerk.. | 3/1/05 | 4/19/05 | Ulcer o stomach..... | ..... | Gastroenterostomy, McGraw ligature. | Ulcer near pylorus; regional glands enlarged. |
| 113 | 21 | M | Farmer. | 3/22/05 | 4/17/05 | Gastroptosis, ulcer of stomach with obstruction. | ..... | Gastroenterostomy, McGraw ligature. | Ulcer at pylorus; pylorus very small. |
| 114 | 34 | M | Laborer. | 3/22/05 | 5/12/05 | Ulcer of stomach, chronic appendicitis. | Chronic appendicitis. | Gastroenterostomy, McGraw ligature; appendectomy. | Ulcer at pylorus; regional glands enlarged; appendix long, club-shaped and adherent. |
| 115 | 30 | F | Teacher. | 4/20/05 | 6/10/05 | Ulcer of stomach, umbilical hernia. | Umbilical hernia. | Gastroenterostomy, McGraw ligature; herniotomy. | Ulcer near pylorus. |
| 116 | 38 | F | Housewife. | 4/22/05 | 6/19/05 | Gastrectasia, cholecystitis.... | Cholecystitis.. | Gastroenterostomy, McGraw ligature; cholecystostomy. | Adhesions of gall bladder to stomach; gall bladder cont'd thick sandy bile. |
| 117 | 57 | M | Cooper. | 5/3/05 | ..... | Ulcer of stomach, cholecystitis, pancreatitis. | Cholecystitis, pancreatitis. | Gastroenterostomy, McGraw ligature; cholecystostomy. | Pancreas much enlarged; ulcer near pylorus; regional glands enlarged; gall bladder cont'd dark sandy bile. |
| 118 | 43 | M | Steward. | 5/3/05 | 6/3/05 | Ulcer of stomach, cholecystitis. | Cholecystitis.. | Gastroenterostomy, McGraw ligature; cholecystostomy. | Scar at pylorus; opening small; gall bladder contained thick dark bile. |
| 119 | 29 | F | Housewife. | 5/12/05 | ..... | Ulcer of stomach..... | Ch. append'is, umbilical hernia. | Gastroenterostomy, McGraw ligature. | Ulcer at pylorus; appendix club-shaped and contained pus. |
| 120 | 30 | F | Housewife. | 5/14/05 | 5/22/05 | Carcinoma of stomach..... | ..... | Gastroenterostomy, McGraw ligature. | Large carcinoma on posterior wall of stomach. |
| 121 | 42 | M | Farmer. | 5/18/05 | ..... | Ulcer of stomach..... | Cholecystitis.. | Gastroenterostomy, McGraw ligature; cholecystostomy. | Ulcer on posterior wall, near pylorus; gall bladder cont'd thick dark bile. |
| 122 | 25 | F | Domestic. | 5/24/05 | ..... | Ulcer of stomach..... | ..... | Gastroenterostomy, McGraw ligature. | One ulcer near cardiac end and one near pyloric and of stomach. |
| 123 | 48 | F | Housewife. | 5/24/05 | ..... | Ulcer of stomach, cholecystitis. | Cholecystitis.. | Gastroenterostomy, McGraw ligature. | Pylorus adherent to omentum and omentum adherent to anterior abdominal wall; ulcer on posterior wall near lesser curvature. |
| 124 | 35 | F | Housewife. | 5/26/05 | ..... | Ulcer of stomach with obstruction and dilation. | ..... | Gastroenterostomy, McGraw ligature. | Ulcer along greater curvature anterior wall; pylorus small. |

6. The patient shows very little, if any, shock after the operation.

7. The patients are relatively very free from pain and can usually sit up in bed with the aid of a head-rest a few hours after the operation.

8. The method should not be employed in making a pyloroplasty.

9. It should not be used in making a cholecystenterostomy.

I will here add four conclusions from Dr. McGraw's paper which will undoubtedly be of great value to those who do not possess his original paper.

1. The ligature should not be a rubber thread nor a flat band; these lack the necessary strength to cut their way with certainty through the thick walls of the stomach. The surgeon must use a hard, round, smooth and strong rubber cord, at least 2 millimeters in diameter.

2. It must include in one loop all the tissue which it is desirable to sever. The formation of small connected loops is an error. In general, the larger the amount of tissue included in the loop the quicker and more certainly will the ligature perform its work.

3. The cord must be drawn as firmly and tightly together as possible and fastened by a silk thread, which is tied around it. I have myself tied the rubber first in a single knot, fastened the silk around it, and then repeated the process for the sake of greater security. This may not be necessary, as the knotting of the silk thread once would probably serve the purpose.

4. Before inserting the rubber ligature the viscera should be joined together by a row of Lembert sutures for a distance of six or seven centimeters, and when the ligature has been tied a similar row in the front should complete the function. If ever there should be an ill success with the ligature, it will, I believe, occur from its too rapid action. The failures to cut through observed by certain German surgeons have, as I said before, been due to some fault in the technic.

I have formulated the method in ten short, concise steps which can easily be followed, especially when one has seen the beautiful drawings which Dr. H. O. Walker published in THE JOURNAL of the American Medical Association Jan. 17, 1903, page 166.

1. A round rubber cord, 2 mm. in diameter, made of the best material, should be used.

2. A posterior row of Lembert sutures is applied.

3. A long straight needle, armed with the rubber ligature is passed into the lumen of the intestine and out again at the desired distance, from 5 to 10 cm. away from the point of introduction.

4. While an assistant holds the intestine the surgeon stretches the rubber in the needle, and when quite thin draws it rapidly through the intestine.

5. The same step is repeated through the stomach.

6. A strong silk ligature is placed across and underneath the rubber ligature between the latter and the point where the stomach and the intestine come together.

7. A single tie is made in the rubber ligature after the latter has been drawn very tightly.

8. The silk ligature is passed around the ends of the rubber ligature where they cross, and tied securely three times.

9. The ends of the latter are released and cut off, being held by the silk ligature.

10. The Lembert suture is continued around in front until the point of its beginning is reached, where it will be tied.

11. Care must be exercised to prevent tying the rubber ligature too far backward and thus getting behind the posterior row of Lembert sutures.

I have used the McGraw elastic ligature 156 times. All but 32 of these operations were performed at the Augustana Hospital. I have had the 124 cases in which the patients were operated on in this institution carefully tabulated in order to give as comprehensive an idea as possible in the smallest amount of space.

Of these cases, 28 patients were operated on for the relief of pyloric obstruction due to the presence of a malignant growth. Of this group 5 patients died. All of these were greatly reduced by their disease and they all died of exhaustion.

Ninety-six patients were operated on for the relief of conditions due to non-malignant disease. In all of these cases, there was obstruction to the pylorus due either to cicatricial contraction resulting from ulcer or to the presence of an acute or a chronic ulcer.

In this series of 96 cases, there were five deaths. In Case 32 in the table, the patient was 64 years of age and very much reduced. He suffered from chronic appendicitis, cholecystitis with pancreatitis and ulcer of the pylorus with obstruction, and with a greatly dilated stomach. He also suffered from right inguinal hernia, hypertrophy of the prostate and cystitis.

I removed the appendix, made a cholecystostomy, and found a great quantity of thick, black, sandy bile in the gall bladder, which accounted for the pancreatitis. I also made a gastroenterostomy with the McGraw ligature. The patient died three weeks after the operation from exhaustion.

Had better surgical judgment been used, it is possible that this patient might have recovered. He was too greatly reduced to bear the extensive operation at his age.

It would have been proper to remove the appendix and to have made a cholecystostomy at the first operation, to have used gastric lavage and concentrated food by mouth and rectal feeding for a time, to have made the gastroenterostomy and herniotomy at a second operation and a perineal prostatectomy at a third, unless the continued rest in bed had in the meantime relieved the condition of the prostate at least for a time, thus postponing the indication for its removal temporarily.

In Case 53 in the table, a woman, 58 years of age, had previously been operated on. A gastroenterostomy opening which had been made two years before with the Murphy button had contracted until it was just large enough to admit a uterine probe. This was enlarged by the use of a McGraw ligature, and a second ligature was employed to make an opening between the two branches of the jejunum. A cholecystostomy was made and a gallstone removed.

The patient was a mere skeleton when operated on. She died on the ninth day from exhaustion.

It is doubtful whether this patient's life could have been saved by any method.

In Case 94, a man, 64 years old, had pyloric obstruction resulting in gastric dilatation and marked malnutrition. He died from starvation three weeks after the operation; no autopsy was permitted, and we were unable to determine why the patient could not assimilate the food he was given.

In Case 104 of this series the patient died of shock. He was 49 years of age, and the same error in judgment was committed as in Case 32, with a more immediately fatal result.

Case 107 in this series was more instructive, because it explained a condition which I had met before after gastroenterostomy, but which I had been unable to explain.

The patient, a woman, aged 34, suffered from an ulcer of the duodenum, with a greatly distended stom-

V 45
1905

ach. She also had a movable right kidney and a lacerated perineum. I made a gastroenterostomy with the McGraw ligature and an enteroenterostomy of the jejunum with needle and thread. A perineorrhaphy was also done. The patient did very well until the fourth day, when she suddenly complained of difficulty in respiration. She died within a few hours. The patient had been in the sitting posture, and we had not diagnosed the cause of her death. An autopsy showed an enormous dilatation of the stomach. The abdominal bandage had made it impossible for the abdominal wall to dilate; hence, the diaphragm had been pushed upward, the heart had suddenly been pushed out of its place, which accounted for the dyspnea and the sudden death. Had a stomach tube been inserted and gastric lavage employed, this patient would have recovered, as she was in an excellent condition before this accident occurred.

I will not compare this with other methods, but will simply record these clinical facts in support of the conclusions made at the beginning of this paper.

## DISCUSSION

### ON PAPERS OF DRS. MAYO, NILES AND OCHSNER.

Dr. Hugo O. Pantzer, Indianapolis, said that in a certain percentage of cases it is possible to palpate an ulcer accompanied with induration, and that tenderness, increased consistency and tumefaction should be painstakingly searched for. He reported briefly a case of anterior implantation of the duodenum into the stomach for stenosis of the pylorus, in which the patient suffered extreme gastrectasis owing to the almost complete occlusion of the pylorus. The duodenum was dissevered, the pyloric end of the stomach closed with running suture, and the duodenum implanted into the stomach just proximal to the thickened, ulcerated pylorus. The patient at the time of the operation was *in extremis*. Dr. Pantzer saw the patient three months before the operation and at that time he found a tumor of the pylorus the size of a goose egg, the stomach filling practically the entire abdomen. Operation at that time was refused. Just before the operation the local conditions were practically the same. The patient was extremely emaciated and enfeebled, necessitating quick work. A slit transverse to the circular fibers of the pylorus of length equal to the outstretched duodenal opening was made, the ends of which, together with the angle of the transverse incision in the stomach, were caught up by two guy-rope sutures; then a running suture, a continuous suture all around and one or two enforcing sutures where the knot of the former was placed, completed the anastomosis. The patient made an uneventful recovery. On the third day feeding by stomach was resumed. At no time was there the least evidence of defective drainage. The patient recovered good health quickly and fully. For over twenty years she had had stomach trouble and was restricted to a limited diet; since the operation she eats all kinds of food without any difficulty. The operation here practiced is virtually the implantation of the duodenum into the stomach, as done by Billroth after pylorectomy for cancer. Examination of Dr. Pantzer's patient six months after operation, and again recently, fails to reveal any tumefaction in the region of the pylorus. The patient was presented before the Marion County Medical Society and examined by several surgeons. It is fair to suppose that restitution occurs here as elsewhere in the body. When the source of irritation, the flow of acid gastric contents over the ulcerated areas, ceases, it is reasonable to expect a cure of the ulcer and subsidence of the inflammatory swelling. On this supposition it is not necessary to remove the thickened pylorus in ulcer cases, as has been advocated by Rodman. Dr. Pantzer expressed his conviction that several rows of sutures in intestinal surgery are often the cause of bad functional results. A single peritoneal suture correctly and carefully placed, with here and there an enforcing suture, usually will be found all-sufficient. The immediate drainage provided by this method will obviate the bad effects resulting from methods wherein the opening between stomach and intestine is delayed, as when the McGraw elastic ligature is employed. An opening provided, as in Dr. Pantzer's case, will continue patent. Experience has shown that the patency of gastrointestinal openings is less assured, particularly in cases in which the pylorus remains. The extent to which this operation is available, and to what extent it may take the place of the more complicated procedures, must be ascertained by further experience.

Dr. A. P. Francine, Philadelphia, read a brief extract of the statistics to which Dr. Mayo referred. They were obtained from the analysis of 2,830 consecutive autopsies in the Philadelphia Hospital. In this number there were 42 cases of ulcer, of which 2 were purely duodenal. He analyzed the associated condition or disease in these cases and found that in 17 there was chronic nephritis; in 12 tuberculosis, either miliary or of the lungs; and in 3 both tuberculosis and nephritis. Thus in 76 per cent. of the cases there was an associated condition of either nephritis or tuberculosis, and it would be interesting to know what relation, if any, these diseases bear to the gastric ulcers. In 20 out of 42 cases, or 47 per cent., the ulcers were multiple. Mayo says that in 20 per cent. of cases more than one ulcer is present. Brinton, in 463 autopsies on patients with ulcer of the stomach, found 57 with two ulcers, 16 with three or four, 2 with five, and 4 with more than five. The sexes in this series were equally divided, there being 21 males and 21 females, and the average age for the males was 43 years and for the females the same, a remarkably equal distribution. Welch, in his statistics, found 40 per cent. in males and 60 per cent. in females. The largest number of cases in his series occurred in males between 30 and 40 years, and in females between 20 and 30 years, but there was much uniformity in the distribution in relation to the four decades. In Dr. Francine's series the greatest number of cases occurred in males between 50 and 60 years, and in females between 40 and 50 years. Here, too, there was a tolerable uniformity in relation to the four decades. Three of the cases were in infants, aged 10, 20 and 36 months respectively. Osler mentions a case reported by Godhart in an infant 30 hours old. It should be borne in mind in relation to these figures that the age given is the age of death, not the age of the incidence of the ulcer, which must be considered as occurring earlier. In regard to size, Osler mentions an ulcer 19 cm. by 10 cm., reported by Peabody, as the largest one he knows of. The largest one in Dr. Francine's series was 9 cm. to 10 cm. by 8 cm. to 10 cm. Osler also refers to a case reported by Berthold in which there were 34 small ulcers. Similar cases of multiple ulcers are seen in some of Dr. Francine's cases. The total number of medical admissions to the Philadelphia Hospital for ten years from Jan. 1, 1893, to Dec. 31, 1902, inclusive, was 39,542. The total number of autopsies was 2,830. The total number of ulcers was 42, of which two were purely duodenal. The summary, therefore, including the figures given by Dr. Howard for the Pennsylvania and University hospitals, is as follows:

| Hospitals. | No. of Autopsies. | No. of Gastric Ulcers. | Percentage. |
|---|---|---|---|
| Philadelphia Hospital | 2,830 | 40 | 1.41 |
| Pennsylvania Hospital | 547 | 7 | 1.24 |
| University Hospital | 279 | 3 | 1.07 |
| Phipps Institute | 107 | 1 | 0.94 |
| City of Philadelphia | 3,763 | 51 | 1.82 |

Dr. George Goodhue, Dayton, Ohio, acknowledged the quickness with which the McGraw ligatures are applied and the fact that the opening does not contract, but he does not see that the ligature has any great advantage over the old procedure. On the other hand, there are disadvantages, the principal one being that it interferes with early nutrition through the stomach. It takes three or four days for this ligature to cut through, so that nothing can pass from the stomach to the intestines,and during this time nutrition from the stomach can not be secured. In many cases early nutrition is important, and Dr. Goodhue thinks this is the great objection to the McGraw ligature.

Dr. J. H. Carstens, Detroit, Mich., said that an operation can not be described; it must be seen. If a physician simply reads the description of a written article he will probably make a little break and discard it, but if he would go to the

surgeon and see him do it he would have no trouble. Dr. Ochsner says the operation is not good for pyloroplasty, but it seems to Dr. Carstens that it is in just such cases that it does good.

DR. ANDREW C. SMITH, Portland, Ore., said that Finney's operation as Finney performs it is an ideal procedure in all cases of benign stenosis. As Moynihan's modification of gastroenterostomy has no loop, it is a much less complicated operation. Dr. Smith's experience, though limited to three cases, sustains Moynihan's assertion that it does not cause vicious circle.

DR. A. J. OCHSNER, Chicago, stated that reasoning *a priori* he had come to the same conclusions as Dr. Carstens. Dr. Ochsner saw Dr. Finney demonstrate his operation, and it seemed to him as though that operation performed with the McGraw ligature would be an ideal operation, Dr. Ochsner performed it in three cases, and all of them were unsatisfactory. It is possible that he simply chose three unfavorable cases, and it is equally possible that in each case the Finney operation would have resulted badly. The operation looked very beautiful after it was completed, and when he had finished the first one he felt certain that it would be an operation he should constantly use. Dr. Ochsner believes that there is some reason for fearing interference with the early nutrition through the stomach. With the Moynihan operation, and the one which Dr. Mayo makes at the present time, the patient can be fed at once. With this method if the patients are very weak and the pylorus is not entirely occluded, Dr. Ochsner has fed them within twenty-four hours. They have not been quite so well as the others, and that is an objection. There is not a communication that is sufficient, unless there is a partly open pylorus. Dr. Ochsner has done the operation described by Dr. Pantzer, using the McGraw ligature for making the anastomosis. He irrigated the stomach thoroughly before the operation and communication occurred soon enough to be perfectly satisfactory.

DR. W. J. MAYO, in reply to a question, said that the Finney operation is ideal when it can be properly carried out, but it took two deaths to teach him that one can not do the Finney operation safely if there be a large amount of scar tissue in the vicinity, and especially along the suture line. In suitable cases, it is the operation of choice. He called attention to one good feature of the method of gastrojejunostomy advocated; it is not only easy and safe of performance, but it gets the food into the jejunum at the highest possible point. Practically every operator in some way or other has had to make provision for possible biliary complications in all the loop operations. Dr. Mayo has done this no-loop operation about sixty times. In two cases there has been trouble with bile. A little would get into the stomach and make the patient very uncomfortable, but in spite of this these patients gain so much in strength and health that he has not as yet considered it wise to operate to relieve the condition. From previous experience with such complications, however, he presumes that a second operation may be required to produce a cure. The percentage of such complications will prove to be as small in this as in any of the simple suture operations. It is true that the Roux operation and some of its modifications are not open to this objection, but the operative manipulations are very extensive, take a longer time and have risks that are not found in the method described. The opening of the common duct, which lies four inches below the pylorus, really marks the beginning of the small intestine. In this operation food gets into the jejunum eight inches below this point. By getting the food into the intestine high up, a large amount of absorptive surface is saved, which is lost in all the loop operations. Dr. Mayo believes that some valuable changes in technic will overcome the few remaining difficulties which are not now of serious importance as they can easily be corrected.

**The Public and the Profession.**—The public at large will hold no high estimate of those engaged in any calling if the members themselves do not stand up for each other. There is no place for jealousy in the heart of the true physician.—McCormack.

## PERIODIC PARALYSIS.*

GEORGE E. HOLTZAPPLE, M.D.
Physician to York Hospital.
YORK, PA.

This very unique and rare affection has been recognized by various European and a few American observers. Dr. E. W. Taylor[1] of Boston, in a very extensive and carefully written article on this subject, gives, in chronological order, a complete bibliography of all the cases that had been previously reported in detail. Some of the cases reported in this summary do not have the characteristic features of family periodic paralysis, e. g., Caveré, in 1853, described a case of general paralysis of the lower extremities. Both were quotidian in type and relieved by the administration of quinin. In 1882 V. P. Gibney reported the case of a child of 7, who after an attack of malaria suffered from paralysis of the four extremities. Recovery was slow. There is almost no similarity between these cases and those of typical periodic paralysis.

The first death was alluded to by Schachnowitsch in 1882, who described a case of intermittent paraplegia in a patient whose father was similarly affected and who is said to have died from increasing attacks. The first authentic case was reported by Westphal in 1885. It occurred in a boy of 12, beginning with a weakness and pricking sensation in his legs. Attacks usually came on at night. The patient would awake and find himself paralyzed. The muscles usually involved were those of the head, arms and legs. Those of the face, eyes, tongue and larynx remained free. The paralyzed muscles were flaccid. There was thirst, heat and sweating, and no excretion of urine. There were no mental nor sensory symptoms except tickling in the soles of the feet. Recovery usually occurred the following evening. Swallowing was usually unaffected. There was temporary enlargement of the heart, with murmurs indicative of cardiac insufficiency. Knee jerks were lost. At the height of an attack there was complete loss of electrical excitability. Later there was permanent weakness of the legs.

The number of cases reported in the summary by Taylor is 53. Thirty-five of these cases occurred in three families, which fact is sufficiently demonstrative that this is a distinctly hereditary affection.

Cousot reports 5, Goldflam 19 and Taylor 11 cases, respectively, having occurred in one family.

Three cases have since been reported by Drs. J. K. Mitchell, Flexner and Edsall. They found a diminished excretion of kreatinin for several days prior and at the onset of an attack, with a rise to the normal after the attacks.

It has been my privilege to live and practice for twenty-two years in the midst of a family suffering from this affection. In the cases thus far reported I have failed to learn of any deaths due to this disease, except one reported by Schachnowitsch, which classification was questioned by other observers, and I believe the disease is considered not serious. Osler says: "Improvement begins within a few hours or a day or two, the paralysis disappearing completely and the patient becoming perfectly well."

Of the family of which I write, six have died in an

* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

1. Journal of Mental and Nervous Diseases, September and October, 1898.

V 45
1905

attack; one died in my presence. Many members of this family have suffered from attacks of periodic sick headache, which appears to be the equivalent to an attack of paralysis, both having a common cause, whatsoever that may be.

This affection in its typical form is characterized by periodic flaccid motor paralysis, involving all of the voluntary muscles, except those of the face, eyes, tongue, organs of speech, of deglutition and the sphincters of rectum and bladder. The attacks may be distinctly periodic for a time and at short intervals, especially in young adults, but frequently later in life at much longer and irregular intervals. The paralysis may be partial or complete, localized or general, the upper extremities alone or only the lower may be involved. It may be confined to the neck, or one-half of the body may be completely paralyzed, while partial paralysis affects the other half. The paralysis may be partial in the morning and become complete during the day.

During an attack of paralysis there may be one or more periods of marked improvement, usually of a few hours' duration, followed by complete helplessness. In a typical attack of complete general paralysis the patient is utterly helpless, can not move a finger or toe, can neither lift nor turn the head on the pillow, and if unsupported, the head either drops on the sternum or backward between the scapulas. In some instances breathing becomes distinctly labored, and deep breathing, cough and vomiting are impossible. Speech and deglutition are in rare instances affected. The order of involvement is not always the same. It most frequently begins in the muscles of the lower extremities, but may only involve those of the upper or the muscles of the neck. There are no sensory symptoms, except in some instances formication and numbness in the paralyzed parts, also a sense of heaviness and a tired feeling, which at times become very annoying to the patient, necessitating frequent change of posture, to the great relief of the patient.

During an attack of complete paralysis the reflexes and the faradic excitability are abolished in the paralyzed part, but return with the restoration of motor power. In some instances I have found the deep reflexes slightly exaggerated during the prodromal period, when the patient felt an impending attack, but I am not certain that this was the result of any change in the central nervous system caused by the approaching attack of paralysis. In such instances the reflexes were always abolished when the paralysis was complete.

Some can predict with a certainty an impending attack, others can not. If any symptoms precede an attack they consist of a peculiar heavy, tired feeling in the extremities, some numbness and formication, and some feel impelled to move and stretch themselves. These symptoms usually come on toward evening and may be accompanied by a voracious appetite, and if this is satiated by indulging in rich food, an attack is almost certain to be precipitated the following night. Over-indulgence in rich food is certain to result in an attack in some individuals, though at the time there may not have been an inordinate appetite; other members of this family are apparently unaffected by rich food, hard work and worry. Some will retire, feeling perfectly well, and awake to find themselves completely helpless, able to speak and swallow, but unable to move head, extremities or trunk. The onset is most always at night during sleep. When the individual wakes he may find himself partially paralyzed, possibly to become utterly helpless some hours later; or a period of marked improvement may be followed by complete paralysis. The onset may, therefore, be very abrupt, as in patients feeling perfectly well, retiring, and after sleeping a few hours, discover themselves helpless, or there may be premonitory symptoms during the preceding day. Some individuals may experience the heavy, sleepy, tired feeling, and sometimes a slight weakness in the extremities with an inco-ordination of the finer movements for days and in rare instances even a week, without the development of an attack. These are doubtless abortive attacks. The members of this family call this "feeling the spell." The duration of an attack may be a few hours, or one, two and in rare instances three full days. Improvement may be very rapid and of short duration, or it may require three or four hours, or even a half day. Improvement is sometimes interrupted by a recurrence of complete paralysis. This is not frequent. It is nothing uncommon for one of these patients to be as helpless as a log at 7 a. m. and at 11 a .m. be engaged in doing a hard day's work, not feeling the slightest inconvenience from having been completely paralyzed a few hours before.

In some, improvement is more rapid when it begins in the upper extremities and in others when it begins in the lower. The first symptom of improvement is simply the ability to produce slight muscular contraction here or there, may be a finger or toe, and this condition soon followed by the ability to move a large portion of the part involved.

Vomiting or one or two loose movements of the bowels sometimes occurs during the period of improvement. Some patients contend that forced exertion aids materially in hastening improvement or in warding off an impending attack. Some complain of muscular soreness on the day following attack, especially if they had to be handled much, while others do not complain of anything. The frequency of the attacks varies greatly in the different members of the family, and also in the same individual at different periods of life. They are usually most frequent between puberty and the middle period of life, and later become less frequent and more irregular.

Some members may be incapacitated for a few hours in the morning, daily, or once or twice a week, and in others the attacks may be at intervals of one or a few months and even longer. During last year it was a rare opportunity to see a typical attack of complete paralysis among the remaining ten members of this family who are subject to these attacks. During an attack there are absolutely no psychic symptoms. The mind remains perfectly clear, and in a patient who died in my presence it was clear until the last moment. The cranial nerves are not involved; none of the special senses have been affected. The bowels almost never move and urine is seldom voided during an attack, unless the bladder is overdistended. The patient retains full control of the sphincters of rectum and bladder.

Patients during an attack usually have no desire for food, some suffer slight nausea, but they usually take nothing but water, until they have fully recovered. In an ordinary attack the circulation remains good; the color of the lips and finger nails is normal and capillary circulation is not sluggish. During a very severe attack I have seen the pulse weak and irregular with evidence of cardiac dilatation. The temperature is not elevated. Some patients during a seizure are almost constantly affected by congestion of the conjunctivas and the mu-

cous membranes of the respiratory tract. The accumulation of mucus in these cases may, at times, greatly embarrass breathing. It would be a serious misfortune for such to be taken with an attack in the midst of a severe cold.

Most of the members of this family began to have attacks at about the period of puberty or later in the second decade, and a few had seizures, at long intervals, as early as the eighth or ninth year. During the intervals between attacks these people seem perfectly well. The hereditary nature of this affection is, I think, established, inasmuch as every one of the paralytic group had either a father or mother who was subject to seizures of paralysis or sick headache, or both.

The general clinical description of the attacks of headache in this family is very much the same as of ordinary hemicrania. Most of these members began to have attacks when only a few years old. The attacks in many recurred once a week with great regularity until after puberty, when the intervals were usually somewhat longer. One member had weekly attacks of sick headache during her whole lifetime; death occurred at 76. These attacks were seldom associated with any apparent disorder of the digestive organs. A number had attacks until the age of 20 or 30 years, when they were replaced by attacks of paralysis, and a number had both alternately. A severe attack of headache would in some individuals seem to protect for a short period against an attack of paralysis.

I have made these observations during the last twenty-two years in a family in four generations. The total number of this family who have had periodic paralysis is seventeen. Eighteen members have had sick headache. Five had attacks of paralysis and headache. Fourteen members have had attacks of paralysis only, and thirteen have had attacks of only headache. The total number afflicted with either paralysis or headache is thirty-two.

Of the seventeen who have had attacks of periodic paralysis, ten are yet living. One of the seven who are dead died from chronic nephritis. The remaining six died in an attack of paralysis, one in my presence. Fourteen of this paralytic group have been under my personal observation. The disease was transmitted through the father having had attacks of paralysis, in six instances, through the mother in four instances; through the father having had attacks of sick headache only, in four instances, through the mother having had attacks of sick headache only, in three instances. In nine instances the disease was transmitted through the father and in eight through the mother.

The parents of the first generation were F. and M. O., of German descent. Both parents were hearty and well, except Mr. O., who was afflicted with periodic sick headache. There is no neuropathic history obtainable. The first generation consisted of five males and five females. Three of the sons had attacks of paralysis, one attack of headache and one was unaffected. Of the daughters, four had sick headache, none had attacks of paralysis and one was unaffected. I will append brief histories of the paralytic group:

CASE 1.—Mr. M. O. is a member of the first generation, the oldest member now living, aged 70 years. His family history and early personal history are negative. There is no luetic history in the whole family. He was of strictly temperate habits, but used tobacco rather freely. He spent his early youth in a store and later served an apprenticeship as bricklayer. His first attack occurred at 14. The paralysis always came on at night. To indulge in rich food, especially in the evening, was sure to precipitate an attack, and to have a severe cold would predispose to a spell. There were no premonitory symptoms; he would retire feeling perfectly well, wake up and find himself helpless. In a severe attack he would be unable to move a finger or toe, neither could he take a deep breath and speech was often difficult. He could usually swallow well, and the muscles of the eyes and face were not involved, while the muscles of the neck were often completely paralyzed. He never suffered from headache and there were no mental symptoms. His appetite was usually gone, nausea was common, but he was never able to vomit. His bowels never moved during an attack, and he always had full control of the sphincters of the rectum and bladder. He never had pain in the extremities, even if handled by the nurse. The paralyzed parts often felt numb.

On examination he is found to be well nourished, color of skin, lips and mucous membrane is good. Tongue slightly coated, slight arcus senilis, arteries at wrist not very stiff. On examination, nothing of special interest is found except the muscles of the extremities are emaciated, and those of the lower so weak that locomotion is impossible. The extensor muscles of the extremities are all slightly stronger than the flexors. Tactile and painful sensations are normal above the hips. The weakness in the lower extremities began eighteen years ago and increased gradually until four years ago, when he was compelled to take an invalid chair. His arms are strong enough to work the chair. The special senses are unaffected, and there are no mental symptoms. The pupillary reflexes are normal. The tendon reflexes of the upper extremities are scarcely to be elicited and those of the lower extremities are abolished. The sphincters of the rectum and bladder are not affected.

CASE 2.—C. F. O., son of Mr. O., had a very severe attack when 24. He died since from chronic nephritis. He left a son and daughter, thus far unaffected.

CASE 3.—Mrs. J. G., daughter of M. O., now 32, has had repeated attacks since she was 15. The characteristic features of her attacks are almost identical to those which are found in the seizures of her father.

CASE 4.—Mr. L. G., son of Mrs. J. G., a teacher, aged 18, had a number of typical attacks. As a child had measles and chicken pox. Never used alcohol, tobacco in moderation, coffee in small quantity. His appetite is good, bowels are regular, is regular with his meals, never indulges late at night, gets slight headache at long intervals, but never has the characteristic headache of this family.

Recently he had an attack which came on during the night. During the evening before he felt numb in his fingers and incordination for finer movements was very marked. The lower extremities were free from symptoms at this time. There was no headache, no gastric distress, no constipation. He was away from home, teaching, and without medicine. He retired at 10 p. m. At 2 a. m. he awoke and was paralyzed; could move only fingers and toes slightly. There were no sensory symptoms. Improvement began at noon, at 2 p. m. was able to sit up, and at 5 p. m. was able to walk with a cane, the following morning at 9 a. m. he had completely recovered. There was at this time some soreness in his legs. During the attack he had full control of his bladder and rectum; no urine was voided for twenty hours; no pain from distension. There was no gastric distress during attack or period of improvement, and the appetite was normal immediately after recovering completely. Later he had an attack, limited to his arms, at 6:30 a. m., when he took a dose of medicine. Sodii brom. 3ss. Caffein citras gr. ii, and at 9 a. m. had completely recovered.

CASE 5.—Mr. J. O., member of the first generation, began to have attacks of periodic paralysis at the age of 20. He never had the characteristic headache. He was otherwise well, but the attacks of paralysis were of frequent occurrence until the age of 34, when he died in an attack.

CASE 6.—Mr. J. O., Jr., began to have paralytic seizures at 16; they were often of weekly occurrence, frequently seen by me. The attacks were most severe during damp cold months. At the age of 25 he went to Missouri, had an attack and died.

V 45
1905

CASE 7.—Mrs. L. P., daughter of J. O., had attacks of headache until the age of 31, when the headache ceased, and she began to have attacks of periodic paralysis. The following is a description of a recent attack: She retired feeling well. At 1 a. m. she awoke, found herself helpless, except that she could move hands and feet. At 5 a. m. improvement commenced; at 9 a. m. it was complete. She cleaned a few rooms in her house, retired at 10 p. m., feeling perfectly well. Next morning at 4:30 she was again almost completely helpless. She improved some later on forced exertion, but at 12 noon she became worse again, and at 3 p. m. was completely paralyzed. I saw her at 6 p. m. She could move head from side to side, but could not lift it from the pillow, neither could she move a finger or toe. She suffered no pain when at rest, but on being handled, a rather severe, dull, muscular soreness. There was no numbness in the extremities; there were no mental symptoms; special senses and cranial nerves not involved. Speech and swallowing were unaffected. Color of skin, lips and mucous membrane normal. Pupils reacted readily to light and shade. Capillary circulation active. Temperature was normal, respiration 20, pulse 80, full, regular in force and rhythm, of good volume, tension normal. Her appetite was good, but she was afraid to eat. There was no nausea. She drank water freely and without difficulty. The bowels had not moved and urine was not voided since she was completely paralyzed; yet she felt that she had full control of the sphincters of the rectum and bladder. Breathing was sometimes a little labored and deep breathing was impossible. Heart sounds were clear, cardiac impulse easily felt, apex in fifth interspace in nipple line. Tactile and painful sensation normal. The tendon reflexes and the faradic excitability of the muscles involved were lost. I saw her the following day at 10.30 a. m. and found she had completely recovered. Her appetite was good, pulse 76, respiration 20. The tendon reflexes and faradic excitability were restored to normal. At 6.45 the preceding evening, as was her custom in such a condition, she took a dose of her medicine, sodii brom. 3ss. and caffein citras gr. i. At 7:30 she felt decided improvement. At 8 p. m. she took another dose; improvement continued, and at midnight she discovered herself well.

CASE 8.—C. O., a member of the first generation, had frequent attacks of periodic paralysis during a period of three years when he died in an attack.

CASE 9.—Mr. F. G., son of Mrs. J. G., later reported as having been afflicted with the characteristic headache, began to have attacks of periodic paralysis at 17. His family history is negative except for his mother's condition. His early history is negative, except that he had spasms when quite small. His attacks occurred at intervals of a week, to three of four months, most frequent in spring. The duration of an attack varied from a few hours to three full days. The attacks came on at night, and lack of exercise always predisposed to a seizure. He had attacks of headache more frequently than paralysis, and an attack of headache would protect him for a time against the development of an attack of paralysis.

He never suffered pain during an attack, nor muscular soreness afterward. He was a big eater, and attacks were always preceded by a voracious appetite, which, if satiated, was sure to precipitate an attack. He had no premonitions except the bulimia. During an attack his appetite was gone, bowels remained quiet, and he retained control of the sphincters of rectum and bladder. He was usually troubled by an accumulation of mucus in the throat and bronchial tubes, which at times greatly embarrassed his breathing. His mind always remained clear. His last attack developed during a Saturday night and continued unimproved until the following Monday at 9 a. m., when I was called to relieve him of the accumulation of mucus which had embarrassed his breathing very greatly. I found him cyanosed, breathing very much labored, pulse very irregular and at times imperceptible at the wrist, with the physical signs of cardiac dilatation. His mind was perfectly clear. I was with him until 9.30 a. m., when his pulse suddenly ceased to beat at the wrist, there was a vacant stare and he was dead. His age was 27.

CASE 10.—Rev. E. O. G., a brother of the preceding patient, would sometimes have a tired and drowsy feeling toward evening that would betoken an impending attack. Sometimes an attack was preceded by slight jaundice. The onset was always at night. His attacks began at the age of 16, and recurred at intervals of a few days to a few months, being most frequent during damp cold months. During attacks he would suffer from a lame, tired feeling, which would necessitate frequent change of position. Improvement was sometimes abrupt, at other times it would require a few hours. He was often completely paralyzed in the morning, and in a few hours would be busily engaged in doing a hard day's work, not suffering any inconvenience from having been completely paralyzed just shortly before. His appetite and general health were usually good immediately after the return of the motor power. His last attack came on during a Saturday night and continued until the following Monday at 4 a. m. There was nothing unusual in the manifestations or behavior of this attack until at the hour mentioned he told his wife, who was nursing him, that he felt very badly, and expressed a wish to be turned on his side, which was done, when he requested to be quickly returned to his former position, and he was dead.

CASE 11.—Mr. F. G., another brother of the preceding two, had repeated attacks at more or less irregular intervals. The characteristic features of his attacks were same as of all the rest. He was taken with colic, which continued for a week, when he was seized by an attack of paralysis, and died twenty-four hours later, at the age of 43.

CASE 12.—Mrs. J. F., a sister of the preceding brothers, is still living and has attacks of headache and mild attacks of paralysis. It may be noted here that the three brothers above mentioned and this sister all had both headache and attacks of paralysis, and the disease was transmitted to them through their mother, who never had an attack of paralysis, but was a life-long sufferer from the characteristic headache.

CASE 13.—Mrs. G. H., a daughter of Rev. E. O. G., is one of the most frequent sufferers now living. She is 24. There are times when she is incapacitated daily for a few hours in the morning, and at other times the intervals may be weeks or months. She gives positively no premonitory symptoms. Overeating, exertion and worry do not seem to predispose to an attack in her case. Attacks are more frequent in damp weather, and to lie in a draft at night is sure to precipitate an attack. When paralyzed she is simply helpless and has no pain anywhere. She may suffer some from sore throat and an accumulation of mucus. The paralysis may be partial or local, and appetite remains good. There is no nausea nor vomiting during the height of an attack, nor during the period of improvement, which was not uncommon in the case of her father. She does not seem to be affected by the kind or quantity of food taken. The following note was recently made which corresponds to repeated observations in her case:

She retired late in the evening, feeling perfectly well, except being slightly tired. During the night she awoke and was paralyzed. On examination, she complained of being little sore throughout her body. There were no sensory symptoms, no numbness, tingling nor formication. There was no muscular twitching; muscles of the neck and extremities were paralyzed; tactile and painful sensation normal; reflexes and faradic excitability in the affected parts were abolished. Pulse regular in force and rhythm, full, tension normal. Cardiac impulse strong, apex beat in nipple line, cardiac sounds clear, no murmurs. Pulmonic second not pathologically accentuated. Capillary circulation active. Respirations 21, not labored, but she was unable to take a deep breath. Temperature normal. Pupils reacted readily. She had little headache; eyes not sensitive to light. She had full control of the sphincters. An ordinary urinalysis and examination of blood negative.

CASE 14.—Mr. H. F., the second son of Mrs. J. F., is one of the worst sufferers living. His family history is negative except that his mother has both the headache and paralysis. He gives no specific nor alcoholic history; had most of the diseases of childhood. He began to suffer from sick

headache at 9. The attacks were frequent, but severe during damp seasons. At 16 he ceased to have headaches and began to have typical attacks of paralysis, some of which were very complete and protracted. His attacks are usually preceded by a tired, dull, irritable, sleepy feeling. There is usually some twitching of the muscles of the neck, trunk and extremities, besides a dry, stuffy feeling in the head; also a slight cough, injected conjunctivæ, and a numb feeling which gradually extends over the whole body. If he retires with these feelings he is sure to awake and find himself paralyzed. When the paralysis is incomplete the flexors are more affected than the extensors. The muscles of the face have at times been slightly involved. Swallowing and speech may be affected, and breathing is often labored, which is aggravated by the accumulation of mucus. Any gastric disorder is apt to be followed in his case by an attack of paralysis. He could bring on an attack at will by eating a rich meal in the evening. When an attack is about to come on he feels impelled to move and stretch himself, and this feeling is a frequent forerunner in his case.

CASE 15.—G. F., daughter of H. F., aged 13 years; had the ordinary diseases of childhood, tonsillitis and complains of rheumatic pain in extremities. Had considerable headache last three years. Her first attack of paralysis occurred at 10; had attacks at long intervals since. So far she had no premonitory symptoms, goes to bed feeling well and awakes paralyzed. During an attack there is no nausea, nor pain; no headache, nor muscular soreness, but some soreness following an attack. If she wakes in the morning to find herself helpless, she has so far recovered by the following noon. Attacks have not been followed by any gastrointestinal disturbance.

CASE 16.—Dr. F., a brother of H. F., has had a number of typical attacks, none the last few years. He is well built, a hearty man and enjoys splendid health.

CASE 17.—Mrs. V. L., a sister to Dr. F. and H. F., aged 40, has only one daughter, aged 18, who has felt the attacks a number of times. No note is included in her case. Mrs. V. L. as a child had measles, mumps, chicken pox, later rheumatism and influenza. She lived an out-door life much of the time, and was well except for the disease named. She commenced to menstruate at 14, which has been regular since. No history of any disease or functional disturbance of any of the pelvic organs. She was always a hearty eater; bowels were regular and she never indulged in alcoholic drinks. Drinks freely of coffee, not much tea. Commenced to have attacks of headache at 15, which recurred every few months. Paralytic seizures set in at 22, and recurred as often as every week, sometimes every few months, and during rare intervals every day for a short period. On the day preceding an attack she would have a voracious appetite a tired, heavy, sleepy feeling in arms and legs, and usually more marked in the latter. When retiring with this feeling she would usually awake about midnight and find herself paralyzed. In a severe attack, and they were numerous, she would be unable to move a finger or toe, to turn or lift the head from pillow. She could swallow and speak, but breathing was often difficult, and coughing and sneezing would be impossible. Her attacks were never complicated by any catarrh of the respiratory tract. Appetite usually continued during an attack, though she avoided taking food, but would drink water. Never voided urine, and bowels never moved during the height of any attack. She had full control of the sphincters of the rectum and bladder. She suffered no pain except at times slight headache and a lame feeling in the extremities, which became painful unless their position was changed frequently. Paralysis would sometimes be limited to lower extremities, but never to neck or neck and upper extremities. There were no psychical symptoms, and special senses were not affected. Never had any cardiac distress during an attack. Duration was usually twelve to fifteen hours. Improvement usually started in the hands, and in one or two hours she would often have completely recovered. Patient thinks work and overeating predisposed to an attack, but not so by overexertion. Attacks were most frequent in fall and spring, and especially when it was damp. During period of improvement would often be nauseated, and have a few loose movements of the bowels. Paralytic attacks have been mild and very infrequent since she was 37. Her general condition at present is very good and suffers at times from slight rheumatic pain in the extremities.

I will here append a few histories, very briefly, of some of that suffer very severely from the characteristic headache:

CASE 1.—Mrs. J. G., a member of the first generation, never had an attack of paralysis, but was the worst sufferer from sick headache in the four generations of this family. She had on an average one attack a week during her lifetime, each attack lasting about twenty-four hours. She seemed to be benefited by vomiting, but not by sleep. She was a moderate eater, though rich food did not seem to predispose to an attack. During an attack she was often chilly and nervous, but had no visionary disturbances. She never had any convulsive seizures, such as are sometimes seen in hemicrania. Thirst was an indication that improvement would soon set in. During the last three years of her life she became very weak and uncertain in her gait. At times she was almost completely helpless in her lower extremities; upper extremities were not appreciably affected. Sensation was much diminished in lower extremities. Mrs. J. G. had three sons and four daughters, and as noted before, all of the sons suffered from headache and paralysis, and all died in an attack of paralysis. Patient died at 76.

CASE 2.—Mrs. I. S., a grand-daughter of Mrs. J. G., aged 38. During the interval between attacks she feels well. As a child she had measles, whooping cough, mumps and scarlet fever. Since this she was well and suffered only from headache, which attacks began when she was only a few years old. The attacks were most frequent and severe during the period of puberty and for a few years afterward, since which the intervals have been gradually becoming longer. When most frequent, attacks occurred once a week, now every few weeks. The attacks are nearly always preceded by vertigo gastric distress and inordinate appetite. Also by visionary disorders, such as floating specks and almost complete blindness. No swelling of the face during an attack. Vomiting often affords some relief. Recovery is slow and gradual, requiring from one to a few days. She is a good eater and has trouble with constipation. Physical examination during the interval between attacks is negative.

CASE 3.—M. S., aged 13, a daughter of Mrs. I. S., when a small child had usual infantile diseases. Began to suffer with very characteristic attacks of sick headache when 2 years old. From the age of 5 to 12 years she had an average of one attack a week. At this time the attacks are further apart. She feels perfectly well between attacks, which usually come on during the night without any premonitory symptoms. Vomiting does not relieve her; she never has attacks of dyspnea or convulsive seizures during an attack. Her general condition is good, no icterus. Deep reflexes normal; physical examination negative.

CASE 4.—Miss M. G., whose mother is a member of the first generation and a sufferer from headache, is a seamstress, aged 23. She is of small stature, well nourished, color good no jaundice. She feels well except for the attacks of headache, which began in early childhood. Always suffered much, but more severely last few years. Attacks vary in frequency of late, one attack every fortnight; vomiting is followed by some relief. She is a moderate eater, and regular with her meals. As a child, she had the common infantile diseases. At 18 she had rheumatism. She menstruates regularly and without pain. On physical examination nothing is found of any special significance except soft mitral systolic murmur transmitted to left midaxillary line, doubtless the result of a previous rheumatic endocarditis. There is also a systolic thrill in mitral area. Pulmonic second sound very slightly accentuated above the normal for a lady of 23. The radial at the wrist not palpable; liver and spleen not enlarged, neither tender on pressure.

I have thus attempted to give a brief sketch of the individuals of this family who have been afflicted with

TABLE OF URINALYSIS OF INDIVIDUALS SUBJECT TO ATTACKS OF PERIODIC PARALYSIS.

1. Mrs. L. P., age 51, weight 165 pounds.

| Specimen. | Quantity, c.c. | Specific gravity. | Solids, in grms. | Urea, in grms. | Indican. Marked. | Slight. | Absent. | Bowels. |
|---|---|---|---|---|---|---|---|---|
| 1 | 1920 | 1020 | 93.8 | 13.5 | 1 | .. | .. | |
| 2 | 1440 | 1025 | 88 | 21 | 1 | .. | .. | |
| 3 | 1440 | 1030 | 105.6 | 31.5 | 1 | .. | .. | |
| 4 | 2400 | 1020 | 117.33 | 10 | 1 | .. | .. | |
| 5 | 1920 | 1022 | 103.2 | 12 | 1 | .. | .. | |
| 6 | 1920 | 1022 | 102. | 11 | 1 | .. | .. | |
| 7 | 1440 | 1023 | 90.93 | 16.5 | 1 | .. | .. | |
| 8 | 1680 | 1020 | 85 | 3.5275 | .. | 1 | .. | |
| 9 | 1920 | 1019 | 80.13 | 4.5 | .. | .. | .. | |
| Av. | 1686 | .... | 96.24 | 13.77 | 8 | 1 | 0 | L |

*2. Mrs. H. F., aged 34, weight 130 pounds.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | 1440 | 1011 | 45.33 | 3 | .. | 1 | .. | |
| 2 | 1920 | 1011 | 51.6 | 7 | 1 | .. | .. | |
| 3 | 1680 | 1017 | 60.8 | 12.25 | 1 | .. | .. | |
| 4 | 1920 | 1017 | 79.73 | 9 | 1 | .. | .. | |
| 5 | 1680 | 1016 | 73.86 | 8.31 | 1 | .. | .. | |
| 6 | 960 | 1023 | 53.93 | 9 | 1 | .. | .. | |
| 7 | 1200 | 1028 | 82.13 | 12.5 | 1 | .. | .. | |
| 8 | 960 | 1018 | 42.2 | 2.37 | 1 | .. | .. | |
| 9 | 1440 | 1019 | 66.96 | 8.62 | 1 | .. | .. | |
| 10 | 2700 | 1016 | 112.6 | 16.5 | .. | 1 | .. | |
| 11 | 2160 | 1018 | 75 | 14.6 | 1 | .. | .. | |
| 12 | 1440 | 1020 | 70.4 | 33 | 1 | .. | .. | |
| Av. | 1625 | .... | 68.62 | 11.55 | 10 | 2 | 0 | C |

3. Miss G. F., age 13, weight 75 pounds.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | 720 | 1011 | 18.66 | .56 | .. | 1 | .. | |
| 2 | 960 | 1011 | 25.8 | 1.73 | 1 | .. | .. | |
| 3 | 720 | 1020 | 38.3 | 3 | .. | .. | 1 | |
| 4 | 720 | 1019 | 33.4 | 2.75 | .. | 1 | .. | |
| 5 | 720 | 1016 | 28.13 | .8 | .. | 1 | .. | |
| 6 | 720 | 1016 | 28.13 | .8 | .. | 1 | .. | |
| 7 | 720 | 1020 | 35.2 | 1.31 | .. | 1 | .. | |
| 8 | 720 | 1019 | 33.4 | .56 | .. | 1 | .. | |
| 9 | 840 | 1018 | 38.93 | 1.13 | .. | 1 | .. | |
| 10 | 720 | 1019 | 33.4 | 2.25 | .. | 1 | .. | |
| 11 | 720 | 1017 | 29.66 | 1.5 | .. | .. | 1 | |
| 12 | 840 | 1018 | 36.93 | 2.625 | .. | 1 | .. | |
| Av. | 760 | .... | 31.25 | 1.58 | 1 | 9 | 2 | R |

4. Mrs. V. L., age 40, weight 195 pounds.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | 1770 | 1016 | 68 | 9.57 | .. | 1 | .. | |
| 2 | 1770 | 1015 | 63.8 | 11.745 | 1 | .. | .. | |
| 3 | 1440 | 1018 | 63.33 | 12.34 | 1 | .. | .. | |
| 4 | 1200 | 1019 | 55.73 | 15 | 1 | .. | .. | |
| 5 | 1320 | 1018 | 58.06 | 6.39 | 1 | .. | .. | |
| 6 | 1800 | 1017 | 68 | 18 | .. | 1 | .. | |
| 7 | 1920 | 1018 | 76.8 | 4.8 | 1 | .. | .. | |
| 8 | 1440 | 1023 | 73.8 | 10.08 | .. | 1 | .. | |
| 9 | 1440 | 1022 | 77.4 | 10.8 | 1 | .. | .. | |
| 10 | 1440 | 1024 | 84.96 | 14.4 | .. | 1 | .. | |
| 11 | 1800 | 1023 | 101.2 | 25.2 | 1 | .. | .. | |
| 12 | 1200 | 1026 | 72.26 | 18 | 1 | .. | .. | |
| Av. | 1553 | .... | 71.9 | 15.027 | 8 | 3 | .. | R |

5. Mrs. H. G., age 36, weight 165 pounds.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | 1920 | 1018 | 84.46 | 26.88 | .. | 1 | .. | |
| 2 | 1680 | 1018 | 73.6 | 15.12 | .. | 1 | .. | |
| 3 | 1920 | 1019 | 89.13 | 18.23 | .. | 1 | .. | |
| 4 | 2160 | 1023 | 121.4 | 17.28 | .. | .. | 1 | |
| 5 | 1440 | 1027 | 95 | 24.48 | .. | 1 | .. | |
| 6 | 1200 | 1023 | 87.46 | 14.40 | .. | .. | 1 | |
| 7 | 1440 | 1030 | 105.6 | 25.92 | .. | 1 | .. | |
| 8 | 1440 | 1025 | 84.26 | 18.72 | .. | .. | 1 | |
| 9 | 1680 | 1021 | 96.2 | 8.4 | .. | .. | 1 | |
| 10 | 1440 | 1026 | 91.2 | 18.72 | .. | .. | 1 | |
| 11 | 1920 | 1024 | 112.6 | 6.72 | .. | 1 | .. | |
| 12 | 1920 | 1024 | 112.6 | 12.48 | .. | .. | 1 | |
| Av. | 1676 | .... | 93.96 | 17.21 | 0 | 6 | 6 | |

6. Mrs. G. H., age 25, weight 145 pounds.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | .... | 1007 | ..... | .003 per 4 c.cm. | .. | 1 | .. | |
| 2 | .... | 1015 | ..... | .013 per 4 c.cm. | 1 | .. | .. | |
| 3 | .... | 1014 | ..... | .018 per 4 c.cm. | .. | .. | 1 | |
| 4 | .... | 1011 | ..... | .021 per 4 c.cm. | 1 | .. | .. | |
| 5 | .... | 1010 | ..... | .009 | 1 | .. | .. | |
| 6 | 3360 | 1015 | 123.2 | 26.88 | 1 | .. | .. | |
| 7 | 4320 | 1009 | 95 | 4.86 | .. | 1 | .. | |
| 8 | 3360 | 1016 | 131.4 | 5.46 | .. | .. | 1 | |
| 9 | 2880 | 1010 | 70.4 | 3.24 | 1 | .. | .. | |
| 10 | 2400 | 1011 | 64.53 | 2.40 | 1 | .. | .. | |
| 11 | 2400 | 1011 | 64.53 | 2.70 | .. | 1 | .. | |
| 12 | 3360 | 1008 | 65.66 | 3.36 | 1 | .. | .. | |
| Av. | 3154 | .... | 87.78 | 6.98 | 7 | 3 | 2 | |
| T. av. | 1742 | .... | 74.95 | 11.019 | 34 | 25 | 10 | |

Average weight of patients, 145.8 lbs.

this unique disease. I say disease, because some have been permanently crippled by it, and six have died in an attack, one in my presence; and whatsoever disorder causes permanent damage to the central nervous system, so as to cause a slow paralysis and very sudden death in over 35 per cent. of those affected, I think is worthy to be entitled a disease.

### PATHOLOGY.

Numerous and very careful observations have been made, but we are yet ignorant of the pathology of this disease. The findings of a necropsy would doubtless reveal much that would explain the pathology, but no autopsy has thus far been obtainable in this family. Theories have been advanced, but none has been proved by demonstration. Some observers believe this condition is due to a toxemia affecting the nerve endings of the motor fibers in the muscles. Goldflam discovered vacuolation of some of the muscle fibers. Until the truth is positively known one dare have views of his own.

I have always been inclined to view this affection as a vasomotor neurosis affecting the blood supply to the anterior horns, which are supplied almost wholly by the anterior spinal artery. I do not know that vasomotor nerves have ever been demonstrated in the vessel walls of the spinal cord, but vasomotor centers do exist in the anterior horns, and it is not likely that the arteries supplying so important a tissue as is found in the anterior horns would not be supplied with vasomotor nerve-regulating influence. The nutritional changes noted in the muscle fibers may have been due to disturbance of function of the trophic cells. The exciting cause, be it toxic, may have a direct influence on the vasomotor nerves regulating the blood supply to this part of the central nervous system, or it may have an indirect influence, when due to gastrointestinal disturbance or when paralysis results from sleeping in a draft.

The slow but progressive permanent paralysis, which occurred late in life in two of the cases herein reported, I always believed to be due to a slow degeneration in the anterior horns, due to frequent disturbance of nutrition and the atrophy of the muscles due to involvement of the trophic cells. Only a careful autopsy will determine the validity of this argument. The paralysis in this disease always appeared to me to be closely allied to the paralysis which sometimes occurs in migraine or hemicrania, such as oculomotor paralysis, aphonia and paralysis of one extremity or of half of the body. Believing there is either a deficiency of elimination or the absorption of some toxic substance from the gastrointestinal tract, in either case resulting in an intoxication by some substance which may be the exciting cause of a supposed vasomotor spasm of the anterior spinal artery, thus causing temporary anemia and paralysis, and ultimately degeneration and permanent paralysis, I attempted some practical investigations to deter-

* Summary of Case 2 in opposite column.

| | Specimen. | Quantity, c.c. | Specific gravity. | Solids, in grms. | Urea, in grms. | Indican. Marked. | Slight. | Absent. | Bowels. |
|---|---|---|---|---|---|---|---|---|---|
| Attack ... | 1 | 1920 | 1022 | 93.86 | 13.44 | 1 | .. | .. | .. |
| Attack ... | 2 | 1680 | 1023 | 94.4 | 16.8 | 1 | .. | .. | .. |
| 2d day ... | 3 | 1440 | 1025 | 88 | 27.28 | 1 | .. | .. | .. |
| 3rd day .. | 4 | 1920 | 1027 | 126.66 | 42.24 | 1 | .. | .. | .. |
| Av. following attack ... | | 1740 | .... | 100.73 | 24.94 | 4 | .. | .. | C |

TABLE OF URINALYSES OF INDIVIDUALS SUBJECT TO PERIODIC ATTACKS OF HEADACHE.

Mrs. I. S., age 38, 132 pounds.

| Specimen. | Quantity, c.c. | Specific gravity. | Solids, in grams. | Urea, in grams. | Indican. Marked. | Slight. | Absent. | Bowels. |
|---|---|---|---|---|---|---|---|---|
| 1 | .... | 1016 | ..... | .017 per 2 c.cm. | 1 | .. | .. | |
| 2 | .... | 1025 | ..... | .019 per 1 c.cm. | 1 | .. | .. | |
| 3 | .... | 1031 | ..... | .027 per 1 c.cm. | 1 | .. | .. | |
| 4 | 960 | 1026 | 61 | 24.96 | 1 | .. | .. | |
| 5 | 1020 | 1025 | 62.33 | 23.46 | 1 | .. | .. | |
| 6 | 2400 | 1016 | 93.86 | 26.40 | .. | 1 | .. | |
| 7 | 1920 | 1027 | 126.66 | 44.16 | .. | 1 | .. | |
| 8 | 1440 | 1026 | 91.44 | 36 | .. | 1 | .. | |
| 9 | 1920 | 1025 | 117.33 | 19.20 | .. | 1 | .. | |
| 10 | 2160 | 1028 | 147.8 | 34 | 1 | .. | .. | |
| 11 | 1440 | 1028 | 98.53 | 34.56 | 1 | .. | .. | |
| 12 | 2400 | 1020 | 117.33 | 36.60 | .. | 1 | .. | |
| Av. | 1740 | .... | 101.81 | 31.06 | 8 | 4 | 0 | C |

Miss S., age 13, weight 98 pounds.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | .... | 1023 | ..... | .014 per 1 c.cm. | .. | 1 | .. | |
| 2 | .... | 1030 | ..... | .018 per 1 c.cm. | 1 | .. | .. | |
| 3 | .... | 1020 | ..... | .011 per 1 c.cm. | .. | 1 | .. | |
| 4 | 720 | 1030 | 52.8 | 9.4 | 1 | 1 | .. | |
| 5 | 480 | 1030 | 35.2 | 7.68 | 1 | .. | .. | |
| 6 | 960 | 1025 | 58.66 | 11 | .. | 1 | .. | |
| 7 | 960 | 1030 | 70.4 | 13.44 | 1 | .. | .. | |
| 8 | 1200 | 1025 | 73.33 | 18 | 1 | .. | .. | |
| 9 | 1920 | 1019 | 81 | 13.44 | 1 | .. | .. | |
| 10 | 1440 | 1027 | 95 | 27.36 | 1 | .. | .. | |
| 11 | 1920 | 1026 | 110.93 | 20.16 | 1 | .. | .. | |
| 12 | 1200 | 1027 | 79.2 | 13.20 | 1 | .. | .. | |
| Av. | 1200 | .... | 72.94 | 14.41 | 9 | 3 | .. | R |

Miss M. G., Age 22, weight 108 pounds.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | 500 | 1025 | 29.33 | 9.12 | .. | 1 | .. | |
| 2 | 800 | 1027 | 31.66 | 8.16 | .. | 1 | .. | |
| 3 | 720 | 1027 | 47.46 | 11.52 | .. | 1 | .. | |
| 4 | 1080 | 1022 | 58 | 4.32 | .. | 1 | .. | |
| 5 | 1200 | 1021 | 61.6 | 3.6 | .. | 1 | .. | |
| 6 | 960 | 1024 | 56.26 | 7.2 | .. | 1 | .. | |
| 7 | 720 | 1025 | 44 | 5.04 | .. | 1 | .. | |
| 8 | 960 | 1024 | 56.26 | 4.8 | 1 | .. | .. | |
| 9 | 960 | 2023 | 53.93 | 5.76 | .. | 1 | .. | |
| 10 | 960 | 1027 | 63.33 | 15.84 | 1 | .. | .. | |
| 11 | 840 | 1028 | 57.46 | 10.08 | 1 | .. | .. | |
| 12 | 1200 | .... | ..... | 1.8 | .. | .. | 1 | |
| Av. | 882 | .... | 50.84 | 7.27 | 3 | 8 | 1 | R |
| T. av. | 1274 | .... | 75.19 | 17.57 | 20 | 15 | 1 | |

Average weight of patients 113 lbs.

TABLE OF URINALYSES OF NORMAL INDIVIDUALS.

1. A. T. H., age 33, 145 lbs.

| Specimen. | Quantity, c.c. | Specific gravity. | Solids, in grams. | Urea, in grams. | Indican. Marked. | Slight. | Absent. | Bowels. |
|---|---|---|---|---|---|---|---|---|
| 1 | 1460 | 1024 | 73.2 | 30.66 | .. | 1 | .. | |
| 2 | 960 | 1029 | 68 | 25.92 | .. | 1 | .. | |
| 3 | 900 | 1023 | 50.6 | 15.30 | .. | 1 | .. | |
| 4 | 1050 | 1018 | 46.2 | 17.85 | 1 | .. | .. | |
| 5 | 1260 | 1023 | 70.8 | 27.72 | 1 | .. | .. | |
| 6 | 1260 | 1026 | 87.4 | 25.83 | .. | 1 | .. | |
| Av. | 1148 | .... | 66.03 | 23.88 | 2 | 4 | 0 | R |

2. J. A., age 19, weight 152 pounds.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | 840 | 1029 | 59.53 | 11.76 | .. | 1 | .. | |
| 2 | 900 | 1030 | 66 | 18 | .. | 1 | .. | |
| 3 | 1500 | 1020 | 73.33 | 24 | .. | .. | 1 | |
| 4 | 1200 | 1022 | 64 | 10.8 | .. | .. | 1 | |
| 5 | 1020 | 1027 | 67.26 | 13.77 | .. | 1 | .. | |
| 6 | 900 | 1023 | 50.6 | 14.40 | .. | .. | 1 | |
| Av. | 1060 | .... | 63.45 | 15.44 | 0 | 3 | 3 | R |

3. A. H. T., age 30, weight 150 pounds.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | 1140 | 1029 | 80.8 | 27.36 | 1 | .. | .. | |
| 2 | 1080 | 1025 | 66 | 23.76 | 1 | .. | .. | |
| 3 | 1320 | 1022 | 70.93 | 23.76 | .. | 1 | .. | |
| 4 | 1380 | 1028 | 94.4 | 29.67 | 1 | .. | .. | |
| 5 | 1230 | 1026 | 78.13 | 31.98 | 1 | .. | .. | |
| 6 | 1200 | 1027 | 79.2 | 32.4 | 1 | .. | .. | |
| Av. | 1258 | .... | 78.24 | 28.15 | 5 | 1 | 0 | R |

4. C. W., age 18, weight 131 pounds.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | 1050 | 1022 | 56.46 | 15.75 | 1 | .. | .. | |
| 2 | 1920 | 1017 | 70.73 | 13.44 | 1 | .. | .. | |
| 3 | 1200 | 1023 | 70.8 | 17.04 | .. | 1 | .. | |
| 4 | 960 | 1016 | 37.57 | 9.6 | .. | 1 | .. | |
| 5 | 1140 | 1019 | 52.93 | 15.96 | .. | 1 | .. | |
| 6 | 1380 | 1023 | 77.55 | 26.22 | .. | .. | 1 | |
| Av. | 1285 | .... | 62.49 | 16.435 | 2 | 3 | 1 | R |

5. P. L., age 16, weight 140 pounds.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | 2220 | 1022 | 119.33 | 44.4 | .. | 1 | 1 | |
| 2 | 2100 | 1023 | 118.06 | 38.85 | .. | 1 | .. | |
| 3 | 1530 | 1029 | 74.8 | 27.54 | .. | .. | 1 | |
| 4 | 1950 | 1019 | 77.33 | 27.30 | .. | 1 | .. | |
| 5 | 1620 | 1023 | 91.06 | 40.5 | .. | 1 | .. | |
| 6 | 1470 | 1027 | 97 | 38.22 | .. | .. | 1 | |
| Av. | 1815 | .... | 96.19 | 36.13 | 0 | 3 | 3 | R |
| T. av. | 1313 | .... | 73.28 | 20.006 | 9 | 14 | 7 | |

Average weight, 139.6 lbs.

mine if these people, as a class, differ in any way from those who are supposed to be perfectly well.

I obtained in all 139 specimens of urine, 73 specimens from six members of the paralytic group, 36 specimens from three individuals who have the characteristic headache, and 30 specimens from five persons who were the picture of health. From the patients I obtained a specimen of the mixed urine for twenty-four hours, on three successive days, at short intervals, and from the well, six specimens from each, on six successive days. The specimens were all submitted to the same examination and the results compared. The only findings recorded in these tables are the daily quantity voided, the specific gravity, the total quantity of urinary solids, the total quantity of urea and the presence of indican which is noted as marked, slight or absent. In none of these specimens was albumin found (only ordinary tests were used) nor sugar, though only those specimens were examined that had an abnormally high specific gravity. The significance of the presence of indican would serve as an index of the degree of putrefactive change of the foodstuff in the stomach and bowels, especially of the albuminoids. If regularly found in large quantity it would point to a possible source of intoxication. If either the total quantity of urinary solids or of urea are constantly below the normal, it would establish the existence of renal insufficiency and would point to an intoxication by the retention of one or more metabolic products, which may, in these people, having a peculiar idiosyncrasy, be the exciting cause of this mysterious affection. In comparing the accompanying tables we find the average quantity of urine voided, the average output of urinary solids, about normal in all the classes examined, i. e., the paralytic group, those subject to headache only, and the normal cases, but one is very much impressed at the marked diminution in the average quantity of urea eliminated by the members of the paralytic group. All of the individuals from whom these specimens were obtained live an active life, and, while the specimens were collected, none were subjected to any restrictions or change in their habits or mode of living.

There is also a striking daily variation in the quantity of urea eliminated by the members of the paralytic group, which is not in harmony with the variation in the quantity of urinary solids excreted. By excluding the little girl, aged 13, weight 75 pounds, from the paralytic group, it is seen that the worst sufferers are those in whom there is the most marked diminution in the average daily output of urea.

In the tables will be noted two specimens from H. F., examined after an attack, and two daily specimens following the one attack, yielding an average daily excretion of 100.7 grams of urinary solids and 24.9 grams

V 45
1905

urea, whereas the same individual excreted a daily average of 68.9 grams of urinary solids and 11.5 grams urea in twelve specimens examined between attacks. A summary of the average of all the observations made is as follows:

| Individuals. | Average weight, lbs. | Average quantity, c. c. | Average solids grams. | Average urea grams. | Indican. Marked. Per ct. | Slight. Per ct. | Absent. Per ct. |
|---|---|---|---|---|---|---|---|
| Paralysis | 145.8 | 1742 | 74.95 | 11.019 | 40 | 38 | 15 |
| Headache | 113 | 1274 | 73.19 | 17.57 | 55 | 42 | 3 |
| Normal.. | 139.6 | 1313 | 73.28 | 20.006 | 30 | 47 | 23 |

In studying the accompanying tables every one can draw his own conclusions, but they seem to establish at least one fact, that the patients included in the paralytic group are not excreting the normal quantity of nitrogenous metabolic products. This being a family affection, there is doubtless a peculiar idiosyncrasy that makes these people susceptible to this peculiar affection when under the influence of some exciting cause, that would not so affect others. What relation there may be between this diminished excretion of urea and the paralysis, further observations may explain.

### TREATMENT.

Believing that these attacks were due to a vasomotor spasm of the anterior spinal artery, I resolved to try large doses of bromid. I began this treatment twenty years ago, immediately after witnessing a death reported in this paper. The dose of bromid, preferably of potassium, usually consisted of 3ss with caffein citrate gr. i or ii, and this dose repeated in one or two hours. This seemed to give unmistakable relief, so that from this time on most of those who were subject to this disease kept the medicine on hand, and without exception, these patients were certain that while it did not cure, it did have a very decidedly abortive influence and hastened improvement, when taken during a paroxysm. Prior to this nothing was attempted but prophylactic measures when predisposing causes were known. Prophylaxis is an important matter with some, for if, in the presence of a severe acute catarrhal inflammation of the respiratory organs one should indulge in rich, heavy food, life might soon be in danger.

In one case reported, E. O. G. took one or two doses during the evening if he felt an impending attack, and for a period of two years he did not fail to meet a pulpit appointment. He was then taken with a febrile affection, which he attributed to the medicine taken, and from this time on he took no more bromid. During the two years he took the medicine he felt the attacks often. After the febrile attack, he was free from the disease for about a year. He was then taken with an attack on a Saturday evening, which continued until Monday at 4 a. m., when he died very suddenly. This was the first attack after he discontinued the bromid. He did not take the bromid unless he felt an impending attack, which he was always able to do. A number of these patients have told me that they feel an improvement invariably in half an hour after taking the medicine. I do not know of a single instance in which a severe attack developed when the bromid had been taken during the onset; small doses were never tried, only large doses to make a decided impression on the nervous system. The frequency of the attacks does not seem at all affected by the use of the bromid.

In these cases no autopsy has been obtainable, thus far, but the patient, aged 70, has consented to an autopsy after his death, and then we may learn more of the pathology of this disease.

## AMERICAN HYGIENE.

CHAIRMAN'S ADDRESS BEFORE THE SECTION ON HYGIENE AND SANITARY SCIENCE, AT THE FIFTY-SIXTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, PORTLAND, ORE., JULY 11-14, 1905.

JOHN S. FULTON, M.D.
BALTIMORE.

The same Scripture which forbids a man to think of himself more highly than he ought to think, warns also against the opposite sin, bidding him think soberly, according as God has dealt to every man the measure of faith. Applying to the duty of this hour the rule and measure of scientific faith which has been dealt to me, I desire to consider soberly the office of this Section as a member, first, of the body medical, and afterward of that greater body in which the profession itself is a member—the body politic. If I confess no surprise that a majority of the members of the American Medical Association see in this Section no very distinguished merit, I imply no disparagement of the past history of the Section, nor any want of intelligence on the part of those who think less highly than I of the capabilities of this Section.

The Section on Hygiene and Sanitary Science seems to me in certain respects the most important division of the American Medical Association, and includes among its future possibilities a very eminent distinction, that of becoming the chosen agent in bringing the powerful and beneficent influence of medical common sense to bear on public opinion. That the Section will be raised to a place of such dignity and influence seems to me manifest destiny, and the question is not whether it shall come to pass, but when. Early—the answer is—if we recognize the advantage of our position and carry forward our responsibility; late—and to our disgrace—if the event must wait until the great body of the profession discovers the advantageous position of the Section on Hygiene and Sanitary Science. A mere perception that this Section articulates the medical profession to the body politic will not of itself commend us to the Association. It is interesting information, to be sure, but, stated in words it carries no conviction. Stated in works, the special utility of the Section will compel the interest of the Association and rapidly develop in the Section its true organic function.

A brief consideration of the circumstances which have been determined internal boundaries in the Association may help us to a better understanding of our own relations. The purpose of these annual meetings is primarily educational. Every man who speaks is for the time being a teacher; every man who listens is for the time being a learner. In the pursuit of information the members are free to go wherever their personal interest leads them, but one's desire to impart information is stringently regulated, first by the individual sense of power to contribute, and next by the selection which a man has made for the sake of a particular technical excellence. A man may gather honey or wax wherever he will, but he brings the product of his industry home to his own hive. Each division of the Association, therefore, stands toward the remainder of the Association as a source of knowledge, a teaching

body; and, conversely, the Association as a whole is a student body, deriving from each of its subdivisions the particular knowledge on which the general efficiency of the profession is nourished.

The distinctions which separate the Association into sections are not equally sharp. Some of them cut so deep that, in order to be a highly efficient individual, one must practice within limits so definite and exclusive that he may lose in time many of the attributes and almost the name of a physician. Allowing for the influence of numbers, the most efficient divisions of the Association are made up of men whose names are but rarely in the mouths of the people, who are spoken of by us not as physicians, but as pathologists, anatomists or physiologists. These sections, in which the title of phyician is most apt to be abbreviated so that the special designation may be spelled out, are central to the body of medical science. About them are grouped other sections with looser distinctions, not wholly enclosed by the natural sciences, but having some contact with human affairs. The place of Section on Hygiene and Sanitary Science is peripheral to the body of medicine, and, in contrast with all the others, fully half of its area lies in political science. Here, more than anywhere else, "special knowledge will leak out, and general knowledge will leak in, though a profession were covered with twenty thicknesses of sheepskin diplomas." Here, or nowhere on medical territory, "statecraft and medical knowledge should sincerely take counsel together for the health of the people." From the reaction between American medicine and American politics, American hygiene results, and all its virtues are not derived from medicine, nor all its vices from politics.

The profession should be deeply concerned about the fate of its members who venture into this field. It is a rash adventure for any man, and the wonder is not that so many fail but that any succeed. All honor to those who in the past have done good work in American hygiene, and all charity for those who have been lost. Every one of them, whether surviving or perishing, came to his task in all but nakedness, for medical education does not prepare a man for the dangers of this field, nor is it likely that, from an academic viewpoint, its dangers are visible. Great numbers of physicians feel qualified to practice hygiene, and great is the mortality of medical men in the service of Hygia. He who develops no political sagacity in this environment is rejected by the people; he who acquires political sagacity of a wrong kind is rejected by the profession. Both may continue in office, but neither can be a profitable servant of the people.

Of the notable faults in American hygiene, one owes its bad eminence equally to politics and to medicine. I refer to the abject, disgraceful, ignorant poverty of American hygiene in the fundamental data of the subject. A country which swells its population by admitting a flood of immigration, with no more than a show of caution about the physical and moral results to the country, can not be expected to care about the minutiæ of loss and repair in its native population. A country which offers citizenship, on the simplest conditions, to any uncouth outlander, is not likely to learn, save in the shadow of disaster, the value of a son born in the land and nourished in its institutions for 21 years before he may become a sovereign citizen.

Excellent reasons justify four volumes of United States Census Reports on manufactures, two on agriculture, and abundant information published by state governments and class journals. Complete and accurate data on these subjects are worth many times the cost of collection. Just as satisfactory reasons justify two census volumes on population and two on vital statistics, while a great majority of the states are absolutely silent on these subjects. And such reports! Better than formerly, but beginning in 1900, as in 1890 and 1880, with an apology for 30 or 40 per cent. defectiveness of the mortality evidence, on this point, or in that locality; loaded with asterisks which mean "data insufficient;" expressing a most reasonable doubt whether nine jejune pages on births ought to be printed at all—these reports express Columbia's sense of business responsibility for 78,000,000 lives. People are cheap; worth less than the cost of acknowledging the beginning and recording the end of life. Faster than disease, accident and crime can diminish their numbers, the land can be replenished by opening the gate to cheaper people.

Vital statistics originated, as the word statistics indicates, in political science, but the neglect of the subject in this country has incited so much medical preaching that politicians have come to regard vital statistics as a kind of medical arithmetic. Such progress as registration has made in the United States is undoubtedly due to the influence of a few physicians, but it is at least doubtful whether the vital statistics of this country would improve very rapidly if wholly committed to the medical profession. Numerical completeness of returns of birth and death might be obtainable, but in a qualitative sense the results would be but little better, for the value of the results depends not on the number of observations but on their accuracy, and their accuracy depends in part on the prevailing standard of medical education, and partly on the physician's sense of responsibility in making his small contributions. In one of the United States the whole subject of sanitary government is, and from its inception has always been, in the hands of the state medical society. No state in the Union is more ignorant of its population, no state more destitute of the fundamentals of sanitary organization. To those who believe that the sanitary destinies of a state would necessarily be safe if confided wholly to physicians, the history of Alabama is a sufficient answer.

The consent of the people to systematic registration of vital data may not be easily obtained, but after that is done the consent of the medical profession will still be necessary in order that the will of the people may be effective. If in certain parts of the country the total neglect of vital registration is a vice of politics, in those states and cities where registration laws are in force, the unsatisfactory results of registration are chargeable against American medicine. To the best of my knowledge, there are two medical schools in the United States whose students are taught to write death certificates. A very intelligent professor of hygiene told me recently that it had never occurred to him that a physician might not know how to write a death certificate. My own experience in handling medical certificates of death, and my acquaintance with the results of mortality registration in general, convince me that one physician in every three can not write a good death certificate because he is not a good enough citizen, and one in every four or five can not write a good death certificate because he is not a good enough physician. Instruction concerning the medical certification of deaths would not wholly remedy these defects, for they are, I am convinced, traceable to a neglect in medical education as

V 4
190

fundamental to the training of medical students as vital statistics are to the practice of hygiene.

The common omissions and occasional redundancies of medical certificates of death, as they have grown familiar to me, are more and more associated with the poor discipline of medical schools and hospitals in the matter of anamnesis. The habit of record-making is yet uncommon even among the younger men. Under the influence of a few schools the times are mending, but, with the exception of those who do undergraduate work in hospitals, very few medical students of to-day have any instruction whatever in medical anamnesis.

Assuming that the teachers of medicine in this country can write good death certificates, a rather large assumption, and assuming that they are able to ascertain the proficiency of students, I know of no exercise more likely to exhaust the complacency of a professor of medicine than to undertake the tabulation of a year's mortality records furnished by a hundred alumni. Whoever is greatly elated over the present status of medical science as compared with that of a generation ago may find in the "Census Manual of the International Classification of Causes of Death" an intimate and unflattering view of American medicine as revealed by American certificate of death. This work, rendered necessary because the mistaken notions of our grandfathers survive in the medical memoranda of to-day, shows what is probably true the world over, that the scientific advance of our generation over the last preceding, however great it may seem, can be measured by the length of a funis.

When the people have consented, and the medical profession is both willing and able to furnish memoranda concerning births and deaths, there will remain a few points for the careful consideration of hygienists. In the United States the records of public offices are apparently public in the most promiscuous sense. The laws usually state that they are open for inspection by proper persons for proper purposes. The most stringent laws hardly go further than this, and the custody of records under such loose provisions is very apt to be a nominal rather than a real guardianship.

In my first three years' experience as a registrar, access to the records was refused three times; once when information was desired to prevent a marriage, once with the design of separating a married pair, once by a physician in order to injure another physician. Later, when the records were numerically worth consulting, life insurance companies began to ask for copies of records for the purpose of verifying statements concerning the deaths of relatives made in applications for new insurance. The use of the records for this purpose was refused, and I was told that such use is constantly made of the records in all American registration offices. Thereon I sent the following inquiries to about forty American registrars:

Are records of birth and death exposed, or copies given, to any person who may apply?

Are copies of birth and death records furnished to relatives of the person named in the record without inquiry as to the reason for desiring such copies?

Are copies given to attorneys or agents of relatives asking such copies of record?

May a lawyer obtain a copy of a record to be used in the preparation or prosecution of an action at law to the prejudice or injury of the person named in the record or of a relative of that person?

May a life-insurance agent obtain a copy of a certificate of death to complete proofs of a death claim without authority from the beneficiary to receive such information?

May a life-insurance agent obtain copies of records for the purpose of verifying the statements of an applicant for insurance as to the cause of death of relatives?

May a copy of a record of birth or death be obtained merely for the sake of information?

In addition to categorical answers from twenty-eight of the men addressed, I obtained a great deal of unexpected information. Those registrars who have not the permanent custody of records of births and deaths could only reply in general terms to the inquiries. None of them knew any instance of abuse of the records. In cities the situation is different. The chiefs of health departments in large cities do not know that their records are subject to any abuse. Some of them have no restrictions about furnishing information contained in the records, and no instance of misuse has come to their attention. In some cities written memorandum is made whenever a copy of record is furnished, but copies are rarely or never refused. In some cities it appears that the records may be searched by private individuals, and that no harm is known to have arisen from this complete liberty. The records are open, and no questions asked, in Indianapolis, Cleveland, Detroit, St. Paul, Milwaukee, St. Louis, Washington, New Orleans, Memphis. The purpose of the inquiry is asked in Philadelphia, Savannah, Buffalo, Louisville, Rochester and Providence, but only the registrars of Savannah, Rochester and Providence claim the power to withhold information. One can not tell from the replies of Boston, Chicago and New York whether the registrars make any inquiry as to the reason for seeking such information, or may in any case refuse information. No inquiry is made in the state of New York nor in Michigan, but the records must not be subject to loss or damage. Attempts to regulate the use of the records have been defeated in Washington, Indianapolis, Rochester, New Orleans. The privacy of the records is partly secured in Providence by a court decision; in Minnesota, by a general statute, which declares that a public official may not be examined on any information obtained in his official character if its disclosure would create public scandal. In New Jersey the records are excluded from commercial uses by regulations of the State Board of Health. In Maryland the registration law forbids the state registrar of vital statistics, under penalty of a heavy fine, to communicate any of the personal details of the records in his custody to any person not authorized to receive the same. The discretion thus vested in the registrar has sufficed so far to protect the records of births and deaths. The recent law on the registration of tuberculosis contains a similar provision. Except local health officers, no one may inspect the register of tuberculosis or receive any of the personal information contained therein without an order of court. The health officer of a western city undertook to restrict the indiscriminate use of his records for idle, or curious, or injurious purposes. The difficulties encountered were too many for him, and the records of that city may now be consulted by any one for any purpose or for no purpose. The records of this city are interesting in the fact that they contain the records both of birth and death of unacknowledged children of distinguished Americans, including a president of the United States, and the city department of health has apparently no way of preventing the inclusion of such scandalous fiction in its so-called public records. In another city the chief of the health department protects the records to the best of his ability, and in so doing has met the successful opposition of a mayor, and the threat of open

war against the health department by a newspaper editor who desired to unearth a private scandal, though the records of the health department at the time included certain memoranda concerning a scandalous portion of his own life.

The state of Michigan has found it necessary to pass a special act providing for a secret calendar of marriages contracted for the purpose of legitimizing children born or expected. This seems to me only a plan of creating scandal out of materials not necessarily scandalous.

In a great many places the records of births and deaths are sold to commercial advertising agencies. Sometimes this sale has been effected secretly for a long time, but in some cities the practice is unconcealed. The buyers of these lists are milkmen, infant food and nostrum venders, tombstone makers, photographers, publishers of memorial cards, undertakers and florists. It is somewhat surprising that undertakers and florists should be willing to pay for records of death on the chance of getting business in so short a time. One registrar writes: "I do not know how it is in your state, but here I know that registrars in various parts of the country are under salary or commission by various firms to deliver regularly records of vital statistics for commercial purposes." In Baltimore an infant food vender went into court to compel the consent of the commissioner of health to the use of the birth records for advertising purposes. In the District of Columbia the commissioner of health asks Congress to pass a bill to protect the records, being unable, as matters stand, to prevent their free use for commercial purposes. In one city, a great one, an employe of the health department was found to be regularly selling to a quack the names and addresses of persons for whom sputum examinations were made in the laboratory. This practice was broken up, it is said, though its continuance was not made impossible.

If these experiences, or most of them, had been reported from the great cities, where the temptation to misuse of the records is greatest, or from the very corrupt cities where health departments may be expected to share in the political demoralization, one might conclude that these reports represented approximately the amount and kind of abuse existing in the field covered by my inquiry. But the populations in which these scandals are admitted are not especially good fields for advertising; with one exception all the cities concerned are free from notorious corruption; in two of them the stability and efficiency of the sanitary organization are remarkably high for American cities. Remember, too, that those who furnished me the information used official paper for that purpose, and it is likely that some officials would not communicate facts of the sort without precautions. It is significant also that, while one of my correspondents said that no abuse of the records had occurred in his department, a gross abuse was shortly after reported to me by another member of the same health department. That a majority of my correspondents have not heard of such abuses as I mention seems to be strange, for it is clear that such records are liable to be abused anywhere and can not be defended unless that liability is recognized.

I can not assent to the view that the records of a health department are public in the liberal sense which obtains with respect to other official records, and it seems to me vital to the sound development of our sanitary anamnesis that very close privacy should surround these personal memoranda. The records will always be false on certain particulars so long as the statements of record are open without hindrance to the general public. Precautions sufficient to prevent abuse of the records need not be so stringent as to make them less serviceable for legitimate purposes. All of us will agree, I think, that they should not be available either by gift or by purchase for commercial purposes, nor answerable to the inquiries of the malicious or mischievous or merely curious, and that records with palpably and wilfully false or slanderous contents should not be admitted to the files. Reasonable care would prevent these abuses, and it is idle to hope for healthy progress of registration until the records are reasonably safeguarded.

We dare not limit the scope of registration to the subjects now included under that head. The particulars concerning population, marriages, births and deaths are by long custom established as necessary sanitary memoranda. The registration of the graver infectious diseases, though generally provided for, is not generally practiced. From time to time the list of notifiable diseases is extended, and it is evident that the scope of registration for the purpose of hygiene will continue expanding. The formal inclusion of pneumonia, tuberculosis, malaria and cerebrospinal meningitis among the notifiable diseases, idle as it is in most places, expresses a real need in public hygiene, and not to be tolerated indefinitely among the sham defenses of American communities. It is notorious that the notification laws in most American cities are practically inoperative, and the common explanation is that the people who enacted these laws do not want them enforced. Those who assume to know the real state of public opinion are the medical practitioners, and these, indeed, do truly represent the opinions of the citizens on whom, for the time being, the notification laws are brought to bear. The consent of the well can always be counted in favor of notification, and up to this time the opposition of the sick can be as confidently expected. This brings up the humiliating reflection that the American people still expect public health to be protected by punishing the sick. It is hardly less humiliating to reflect that the medical profession, perfectly able to represent us truly to the distrustful public, suffers this medieval view to persist.

There are, however, some boards of health able to operate their notification laws with very little friction, and these have found that the opposition of the public has disappeared as fast as the confidence of the medical profession was won. Where cities have made adequate provisions for infectious diseases, where the relations of boards of health to the afflicted are altogether helpful, and, above all, where the organization of the health department is not subject to the vicissitudes of party politics, there notification laws are effective.

So far as I know, the worst forms of political corruption are very seldom discovered in health departments. I like to think that the profession to which I belong is very little inclined to cupidity, and that in hygiene, as in other branches of practical medicine, moral principles are not easily broken down. I have encountered in my own experience but a single instance of what seemed to be a conspiracy to extort a bribe involving the health department of a great city. Last October (1904) a citizen of Maryland, Mr. E. T. D., asked my assistance in the following circumstances: While on a vacation tour with his family, his son, aged 9, was attacked with diphtheria and died July 13 in a western city. He engaged an undertaker, who said that

V 45
1905

the cause of death did not prevent the transportation of the body to Maryland, and together they purchased transportation cases conforming to the interstate regulations. Permission to transport was refused by the health department on the ground that a city ordinance forbade it. There is, however, no such ordinance, though an ordinance does forbid the bringing of a body dead of diphtheria from outside into the city, and forbids the disinterment of such a body within 10 years. The Marylander was told that a permit could be obtained by "shaking hands" with the proper person. He understood this to mean the use of money, and definite instructions were given him, but when some tangible evidence of good faith was refused him he declined to do as he was instructed, bought a cemetery lot, interred the body, and returned to Maryland. He desired me to help him recover the body of his son. I gave him a letter to the western health commissioner and advised him about the legitimate cost of getting a permit. He left, saying that he would try to get his son's body without the unlawful use of money, but that if obliged to use money he would, on his return, declare all the details. In November he went west again, carrying letters from three Maryland officials besides myself. He returned with the body of his son, and on Dec. 4, 1904, told me the following story. I omit minor details: Going first to the health department, Mr. D.'s request was refused and the acceptance of his letters was refused. He went then to a railroad man of his acquaintance, who introduced him to the president of a bank, who, in turn, gave him the name and address of a lawyer. Mr. D. "shook hands" with the lawyer and gave him money for himself and several other people. He did not mention the name of the lawyer, and he implicated by name but one person, a superior officer in the health department. His resentment against this individual was very vigorous until I proposed to transmit all the information in my possession at once to the commissioner of health of that city. My fellow-citizen thereon explained that the money which he spent was in the form of gifts, and that it was possible for him to have gotten away without paying. I communicated the information in detail to the chief of the western health department. Two letters have gone each way, and such information and assistance as I can furnish are still at the service of the commissioner of health whose department is implicated in this scandalous business.

American hygiene is, as I said before, the offspring of American medicine and American politics, and is worthy of the two. While its worst faults are, perhaps, derived from politics, American medicine is measurably responsible for the moral as for the scientific deficiencies of the neglected bantling. Has the medical profession anywhere been resolutely arrayed against the corruption of American politics or ever concerned itself deeply about the welfare of its fellows exposed to extraordinary moral hazard in an honorable and necessary calling? Have the medical men who entered this field, and pursued honorable careers honorably, been defended from the predatory statesmen? Where were the physicians a few months ago, when a state, after more than twenty years of leadership in public hygiene, was turned back to the foot of the column, in order that a governor might compliment a friend?

When, "in the exigencies of politics, it seems to have been necessary, in the mind of the new mayor," to have a new commissioner of health, and to retire one of the most active and successful educators of the public that the country has produced, where were the physicians of the city? Did the exigencies of politics really score so well that physicians can hope, with a show of reason, that a new man—any new man—may succeed at once to the efficiency of his predecessor?

At the end of this chapter of delinquencies, some uninformed person may ask whether there is any virtue in American hygiene. To speak to the affirmative of that question would have been an easy and agreeable task, for I am far more impressed with the merits than with the delinquencies of American hygiene. I am as much surprised as you can be that the honor of being your chairman has turned me to these sober reflections. Pioneers we are, every one of us; fit for the trail, perhaps, but unfamiliar with it; making in the field a new science which many suppose to have been previously made in the schools and laboratories; cut off from our former associates, yet not alone, but laboring, with other pioneers of statecraft, sociology and applied science, to build the principles of preventive medicine into the social structure. Better understood, we sometimes think, by our fellow-pioneers than by the people, on one hand, or the men of medicine, on the other, ours is a game of which the players know little and the referees know less, a game having a fine theory and a book of elaborate rules, but the crudest practice. To bring the conceited medical umpire and the willful citizen-referee together and make them know each other, to mix common sense with medicine and common honesty with politics, and to let the book of rules then and there be damned; that is the way we shall come to be known for what we are, and afterward for what we ought to be. Since the robes of Æsculapius were rent by the endosmosis of common sense, we have learned that knowledge is power in proportion, not to its concentration, but to its diffusion. I count it the highest distinction of a hygienist to be diligent and skillful in diffusing among the people a special knowledge to the salvation of their bodies, and I conceive it to be within the power of this section to diffuse among medical men a general knowledge to the salvation of their citizenship.

Of my two immediate predecessors in this chair, each very clearly expressed the feeling that the Section is not now in the full exercise of its function, if, indeed, the nature of its function is generally understood. At the Atlantic City session we agreed that at each annual session the Section should make an objective presentation of some phase of its subject. Our first exhibit in this line we devoted to the hygienic relations of water. The Board of Trustees approved our plan and promised the needful financial support. At their meeting in February the Board of Trustees appropriated $200 to the use of the Section, and your Secretary and Chairman concluded that this amount would not finance such an exhibit as was planned at a point so remote as Portland. The exhibit here presented has cost the Association less than $50. The program is nearly as full as we desired, but the exhibit amounts to no more than one-tenth of what could easily have been realized. Nevertheless, the program and the exhibit meet our original design very satisfactorily in one most important respect. Both program and exhibit include contributions from non-medical sources. If some foolish person suggests that this circumstance implies a poverty of medical resources, say to such a one that it indicates, on the contrary, that affluence of hygiene which we especially desire to share with our fellows in the ranks of medicine.

If I may, in concluding, express a choice of subject for a future hygienic exhibit, I shall say that our next

effort in this line should cover vital statistics, the dryest, most refractory and most neglected subject within our field, and, withal, the most necessary, the least expensive to display, and the strongest to save a man from thinking of himself more highly than he ought to think.

## DISCUSSION.

DR. ELMER E. HEG, Seattle, Wash., said that in 1890 or 1891 the first vital statistics act was passed in Washington, and it took the old form of county registration. Strenuous efforts have been made at various times to have that changed to a central registration, without any result. At the last legislature they succeeded in having a bill pass the senate, but it was amended in the house. The amendment, in Dr. Heg's opinion, absolutely killed the bill. It was very short. It was carried by an Eddyite. The original bill required that no burial permit should be issued except on the "certificate of a legally qualified physician." The christian scientist changed it so that a burial permit could be issued on the "certificate of any member of the family or a legally qualified physician." Considering that that would vitiate entirely the accuracy of death returns, Dr. Heg asked the senate committee, at conference, to refuse to concur, and the bill died in conference, so they are now just where they were in 1891. From expressions that he has heard throughout the state, Dr. Heg is satisfied that at the next legislature a proper registration act will be passed for the state of Washington. He said that, not having had a central registration, he has not been brought in contact with the illegitimate uses of the records, but he can readily see that the bill they had before the legislature would not have safeguarded them sufficiently. In the state of Washington there is no trouble at all about the notification of eruptive diseases, but when the state board of health asks for notifications of such diseases as typhoid fever or pneumonia it meets a stumbling block, and it appears to Dr. Heg that physicians ordinarily will notify the health department of any disease when the notification receives recognition by a quarantine or something of that sort, so that they know some use has been made of the notification. For the past year or two local health officers, when they were notified of typhoid fever, for instance, have placed in each house the rules of disinfection, and physicians, on receiving that much recognition of their notification, report very much better than they did before. They used to ask: "What is the use of reporting typhoid fever? It does no good." Now, when they see these rules for disinfection, they report.

DR. W. C. CHAPMAN, Toledo, Ohio, declared that he finds that the great trouble with physicians is want of information and want of education in the matter. Physicians all through Ohio refuse to report because they do not see that there is any necessity for doing it, and the first thing that state boards of health have to do is to educate physicians to see the necessity of reporting diseases. Dr. Chapman has had a good deal of experience in the last several years with smallpox, and the physicians say: "We will not call it smallpox till we have to." Cases of smallpox are not reported in Ohio until some one finds out that it is smallpox. Some neighbor says there is smallpox in a certain house, and the health officer finds that it is so. In Toledo there has been a good deal of smallpox among the workers in the rolling mills and iron works, because the physicians have not reported it. The people themselves will not report it. The disease has been so slight that they say: "We will not report it; we will have to go into quarantine and all that trouble." Finding that this was the case, the health officer made an inspection of that whole ward; 1,500 or 2,000 vaccinations were made, and several health officers, with the physicians, inspected the region and found a great deal of smallpox among parents and children that had not been reported. Physicians must be compelled in some way to understand the necessity of reporting diseases. In Toledo Dr. Chapman believes there is not one case in four of typhoid fever reported. In very many cases this is because of a desire on the part of the people, backed by the physicians, to avoid the notoriety. This is especially so in measles, a very dangerous disease. The medical profession is very negligent about this matter, and Dr. Chapman thinks that this Section is the one that should take steps in this matter and undertake to educate physicians and health authorities everywhere to appreciate the necessity of registration.

DR. M. L. PRICE, Baltimore, suggested that what Dr. Chapman says shows that the laws of Ohio are a little lax in prosecuting these cases. In Baltimore, in smallpox and other serious contagious diseases, health authorities have been in the habit of prosecuting in every case where it is found that a report is not made. They have obtained several convictions under that law. The essential point in vital statistics is correct and accurate returns, and if that is true as to deaths it is certainly much more essential to have reports of sickness. Dr. Price regards the confidential nature of such records as absolutely essential to secure both correctness and accuracy in mortality returns. Returns in many countries do not give the correct cause of death. The returns of tuberculosis in France are practically *nil;* they are all stated as bronchitis.

DR. WALTER F. MORRISON, Spokane, Wash., said that there is no law in Washington governing this subject and that, therefore, there is difficulty in getting people to conform to what the health authorities think ought to be law. In regard to reporting diseases, Dr. Morrison said that much depends on the health officer and the public sentiment behind him. In Spokane the physicians are pretty good about reporting those cases, because the health officers have taught them to do so. The health officials keep a supply of pamphlets for distribution among the physicians, and the reference to prosecutions, under the law, of physicians who do not report these cases is underlined. In several cases when there were two competing doctors in the same town who were antagonistic to each other, when one of them stated a case was scarlet fever, if slight, the other would say it was measles, or when smallpox, the other would say it was chickenpox. The trouble, Dr. Morrison thinks, is with irresponsible newspapers. These make trouble sometimes and give a good deal of annoyance when the health officers are trying their best to do their duty. Stringent quarantine laws have been established in Spokane, and they are strictly enforced, and the health department is very particular about disinfection of the premises afterward. Dr. Morrison recalled a very interesting case which occurred a short time ago, in which a girl of 16 came from an adjoining county. Three months before she came to Spokane county she had diphtheria; the town had been afflicted with diphtheria, and there was no quarantine and no disinfection in the town so far as this girl, who was very intelligent, knew. Their premises, she said, had not been quarantined and had not been disinfected. When three months time had elapsed, she thought she was safe in visiting her friends. She was suffering from conjunctivitis at the time, and came to Spokane for treatment, and within ten days of the time when she visited this family one child was attacked with membranous diphtheria and died. The mother, who had not received any antitoxin, was attacked with diphtheria and had a very severe case. In this case Dr. Morrison urged the physician to give all the members of the family immunizing doses of antitoxin. Dr. Morrison examined the girl's arm three months after she came from the house and found that a scar where she had been burned was diphtheritic, and, while there was no actual test, he is satisfied that she went to Spokane suffering from diphtheria, and that the secretions from her eyes and from this sore were diphtheritic, because within ten days two members of the family developed diphtheria and one died. He said that if there is a defect in this matter in Spokane county it is in raising quarantines too soon. He said that it is almost impossible to obtain reports on typhoid fever and tuberculosis. Dr. Morrison has not enough notices to send to the physicians in the city of Spokane who practice in the country, but sends such notices to the physicians practicing in Spokane county, without the city, and he occasionally gets a notification of tuberculosis and occasionally of typhoid fever, but there is no quarantine established. If there were some form of quarantine against typhoid fever and tuberculosis and the supposedly less severe forms of contagious diseases there would be less trouble in getting reports and enforcing health laws.

DR. N. K. FOSTER, Sacramento, said that he can sympathize with Dr. Heg in his trouble in getting through the legislature laws to his liking, although the health officials' success in

California last year was a good deal better. They had been working under the old laws which were passed in 1870, under which the county recorders were expected to report to the state board of health every three months. During the last legislature they succeeded in getting passed a law providing that before the remains of a person could be legally buried the undertaker must get a permit, which is issued only on the presentation of a properly filled death certificate. This law, Dr. Foster thinks, they will succeed in enforcing. In the matter of births they will not succeed quite so well, although the law has been in effect only six weeks, and the returns are coming in pretty well. In the matter of reporting deaths they have a law that will cover the ground pretty effectually. They have followed very closely the law as suggested by the Census Bureau. The question of quarantine and the reporting of cases is one that is open to a good deal of discussion. It is a broad question, and has got two sides to it. Dr. Foster is not so much enamored with quarantine as are a good many. Take, for instance, smallpox as it has been known throughout the country for the last few years. The California state board of health has taken a little different ground than any other. When there is a case of smallpox that case must be isolated; everybody that has been exposed to the disease from that case is to be offered vaccination; if they accept it and will promise to report to the health officer every day for examination, they can go on about their work. If they refuse vaccination, then they are to be isolated, of course, not with smallpox cases, but separately, until twenty-one days have passed. In that way the health officers think that they will minimize the expense and get the maximum of protection. If isolation of every person who has been exposed is insisted on, many cases will not be reported, whereas, if the exposed ones are allowed to go about their business, there will not be that incentive to secrecy and they will accept vaccination and be protected. This method is to be given a trial. In case of diphtheria, Dr. Foster believes that the patients ought not to be let out too soon, but if the health officials say that they must stay in for six weeks they can not enforce it. The patients will say, "We won't stay." In order to make a success in reporting and controlling contagious diseases three things are necessary: Good laws, a public sentiment behind them, and an executive department that will enforce the laws. If there is a law that the public will not consent to, that it thinks is unreasonable, it can not be enforced. If the law is reasonable the physicians and the people will stand with the health officers. If there is an executive officer who will enforce those laws and once in a while make a good prosecution for the non-reporting of cases, not picking out a physician that has only a case occasionally, but the man who is at the head and not at the foot, much good can be done. By educating the people and getting good laws a condition of things can finally be obtained in which all cases will be reported, and the laws will be enforced without any great amount of trouble. It is not possible anywhere, Dr. Foster thinks, to get all tuberculosis cases reported. Dr. Foster does not believe in quarantining tuberculosis, because a person with consumption is not dangerous if he knows how to take care of himself. Efforts can be better directed to teaching people how to take care of their sputa and to make themselves safe to be with others than in quarantining them.

Dr. W. C. Chapman, Toledo, Ohio, agreed with Dr. Foster that isolation of the smallpox patient and vaccination of contacts is practical and all that is necessary. He mentioned an illustrative case.

Dr. Charles V. Genoway, Spokane, said that in a case of smallpox he would vaccinate everyone who had possibly come in contact with the patient and would take the person who had the disease to the isolation hospital. He uses serum in every case of diphtheria. He isolates the patient and gives every one who has come in contact with the case an immunizing dose of antitoxin. About the only cases of typhoid reported are those that are fatal, but he thinks they can get physicians to report those cases better than in the past. He agreed that physicians are very good in Spokane about reporting diseases. He thinks they hardly quarantine long enough for scarlet fever and diphtheria. When he went into office, ten days after the disappearance of the membrane was the rule, but he has increased that period; now it is two weeks after a culture from the throat is taken and proves negative.

Dr. Denslow Lewis, Chicago, said that the most important matter is to secure the active co-operation of the profession. It is a good many years since he was health officer of what was the village of Hyde Park and of what is now a very large portion of the South Side of Chicago. In 1879 he was health officer, and at that time many physicians objected to reporting cases because cases of infectious diseases were quarantined; cards were put up in cases of diphtheria and scarlet fever, and the smallpox patients were removed to the pest house. The families often thought it a hardship; in many instances they thought it almost a disgrace; in some cases, when the family lived in the back room of a little shop, it interfered with business, and, of course, that was most serious. In order to have statistics of value they must be complete, and for that reason it is important to have every case reported. In large cities this can only be done if the profession co-operates with the health officials; no law will make physicians report. It has been tried in Chicago; fines have been tried, and recently, in the return of vital statistics, physicians were paid, or were offered pay, for returns of births. The experience in Illinois has been very peculiar. In some towns of perhaps twenty or thirty thousand inhabitants there would be reported about twenty births a year. The prosecution of physicians will not make them do their duty; it remains, therefore, to appeal to their sense of propriety, so that an intelligent and willing co-operation may make statistical records complete. It should be understood that notification of disease does not necessarily imply that an uncomfortable quarantine shall be instituted; in other words, it is well for the health officer to exercise his judgment. At the time when Dr. Lewis was a health officer there was an epidemic of scarlet fever. He was called to see one mild case after it had been in progress a couple of weeks, when the child was practically well. The family and physician both objected to the card. They had facilities for isolation; they occupied a large house, and it was possible to put the child up in the attic away from everybody; in other words, it was possible to make the quarantine complete and to protect the public perfectly. Under those circumstances Dr. Lewis thought it advisable to omit placarding the house and no harm resulted. The health officer in these cases should have some discretionary power. The main factor is to prevent the spread of contagion, and, while it is usually advisable to secure publicity in these cases so that the public may take all due precaution, there are cases in which the placarding of houses may consistently be omitted.

Dr. L. M. Powers, Los Angeles, said that he generally advises the administration of antitoxin as a prophylactic measure in those who have been exposed to diphtheria, especially children. He is doubtful, however, whether this is a benefit to the public, though it is of undoubted benefit to the individual; it permits mild forms of diphtheria to develop, while the disease is prevented from manifesting itself sufficiently to allow the condition to be recognized and the patient isolated. Consequently these individuals may go around and infect more people than one with a malignant form would. His experience has been, not only with diphtheria, but with smallpox and typhoid fever, that the mild cases are the ones that spread the disease from town to town and over the country; therefore, he looks for mild forms of transmissible diseases which are too often not diagnosed. For years all patients with diphtheria have been separated from well persons and kept separate as far as possible by placarding the home; this is an incomplete quarantine; it is impossible to maintain a complete quarantine without a guard. By placarding the home and with no guard one can not keep people from visiting, the divine healer, christian scientist and others who wish to demonstrate their powers will take chances, and these are the people who help to disseminate the disease. Diphtheria patients in Los Angeles are not released from quarantine restrictions until they show an absence of the germ in the throat, whether that be one week, two weeks or six weeks or even eighty days. Dr. Powers has held patients in quarantine as long as eighty days, and the germs would show in a virulent form in the throat. As long as those germs exist in the throat, whether they are virulent or

not, such patients are liable to transmit the disease to others with whom they come in contact. Consequently Dr. Powers thinks that quarantine restrictions should be maintained until every case shows an absence of germs at least with two consecutive cultures. In quarantining large schools or homes this procedure is necessary in order to prevent mild forms of the disease or to prevent patients who have had severe forms of diphtheria returning and reinfecting the building. The injection of small doses of antitoxin permits a mild form of the disease; the antitoxin does not kill the bacilli; it only neutralizes the toxin.

DR. KATE LINDSAY, Boulder, Colo., stated that whooping cough has been the most troublesome disease for her to quarantine, and it is a very dangerous disease, certainly during the first three years of childhood or between 6 months and 3 years. As a rule, children have whooping cough in a mild form if they are from 6 to 8 or 10 years old, and they go around the neighborhood, and yet it is a very dangerous disease in young children and very liable to be followed by sickness. Dr. Lindsay said she would like to have some light on the matter of quarantining whooping cough and saving the babies.

DR. N. K. FOSTER, Sacramento, said that in California there is no law making whooping cough a quarantinable disease; it is a reportable disease under the rules of the state board, and it is a misdemeanor to disregard these rules. He also spoke of the number of properly educated sanitarians. Our health officers are largely recruited from physicians—from those who are young and inexperienced and generally without having had any special training. He said he wished the American Medical Association, starting through this Section, would insist that the medical colleges in this country educate sanitarians or at least provide some good course of sanitary science. Let them give a two years' course, so that we can have men all over the country who are competent sanitarians. Of course, there are many good men now—men who have had extended experience and education, but throughout the country sections and a good many of the thriving cities there are men who are not what is needed, and Dr. Foster supposed that it is the same throughout the United States. There is difficulty in getting men who have had any instructions whatever in sanitary science; they may be good physicians, but bad sanitarians. Dr. Foster thinks it would have to be a postgraduate course, but thinks these men should have some teaching, at least an optional course of a few months, in sanitary science.

DR. JAMES CARROLL, Washington, D. C., said that the George Washington University is now contemplating the establishment of a course with a view to conferring the degree of doctor of public health, the special object being to qualify men for the sanitary service.

DR. W. C. CHAPMAN, Toledo, said that the only trouble is that health officers are not well paid. There is no inducement to take that course for two or three years for $25 a year, which is about the sum paid health officers in Ohio.

DR. E. E. HEG, Seattle, said that Dr. Foster's idea of a course in sanitary science is exceptionally good. He thinks, however, that such a course should be a part of the general training of a physician. The whole point of getting reports is getting the co-operation of physicians; if they were to understand the necessity that the health authorities have for accurate reports there would be no trouble in getting those reports. If that was a part of the general training in colleges, a requisite for a degree, just as a knowledge of the eye is, they would know the necessity of it and education on the subject would start with the younger men. The older men would some time die off, and the younger men would know something about it. He said that Dr. Foster's method of handling smallpox in California has been done in the state of Washington for nearly three years. In Washington, on one side is a state with no health authorities whatsoever, on the other side is British Columbia, and there the authorities are exceptionally strict. If even one case of smallpox drifts over the line from any one town in Washington it means an absolute quarantine of a whole section of the state, so the Washington health officials have to be careful. All quarantine regulations should be tempered a great deal with tact. The object, of course, is to get the greatest possible protection with the least possible inconvenience. Tact is a valuable quality in any health officer or in any physician.

DR. CHARLES C. BROWNING, Monrovia, Cal., said that co-operation has been dwelt on at length, and he thinks not too greatly, because that lies at the foundation of being able to secure reports. Recently he was visiting a physician, who was going to stop at a place, and asked him to step in. He stepped in and saw a child with scarlet fever and was a little surprised. The physician made a hurried call, and after leaving the case said he would not call it scarlet fever because the health officer would put a card on that house, and the man had to make a living. It seems in that particular town the physicians are not in as good accord as they are in Washington. That is one of the stumbling blocks. Another is that the people generally understand that a report means quarantine. Now, the large number of cases of tuberculosis and typhoid fever do not need to be quarantined in the general sense of the term; it is not proper or necessary, but if physicians understand that when such cases are reported a certain latitude and assistance will be extended, the disease will be attacked by educating the people. First get the physicians educated, and then educate the people to look on the health authorities as their friends, and not as a great inconvenience. That is especially true of typhoid fever and tuberculosis, diseases which are responsible for a great deal of suffering. Then get at the teachers of the public schools through the state board of health and through the county and city boards.

## INNOCENT FIBROMYOMA OF THE UTERUS.*

THOMAS B. EASTMAN, M.D.
INDIANAPOLIS.

During the last few years there has appeared in the surgical literature a number of articles wherein the writers have advocated the removal of practically all fibromyomata of the uterus. This position has been taken for the most part on the ground that in many cases complications threatening life, such as the various diseases of the tubes and ovaries, etc., were found which warranted the removal of these structures together with the uterus itself.

It is my purpose to urge that in a very large proportion or in practically all fibroid tumors there exists in the tumor itself at the time of diagnosis, or will exist with considerable degree of certainty at some future time, conditions which warrant their removal, or that the tumor will sooner or later produce such conditions elsewhere. I do this with the full realization that there come to the autopsy room numerous cases wherein such tumors had existed for years symptomless, and in which they were no way responsible for the death of the woman.

That there is a tendency to exaggerate the extent to which these degenerations are found is conceded; nevertheless, that they are found in such a number of cases as to render them of much importance requires for confirmation only the careful perusal of the literature of the subject.

Camus[1] reports a case of multiple fibromyoma of the uterus, weight 4 kilograms, which had undergone calcareous degeneration in one part, the degeneration evidently having started on the periphery. There were no symptoms, but large abdomen.

M. Cornil[2] describes the removal of an intramural fibroid of the size of a fist in a state of edematous and colloid degeneration. The tissue was semitransparent

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

1. Bull et Mém. Soc. An., Paris, 1904, lxxix, 707.
2. Bull. et Mém. Soc. An., Paris, 1904, lxxix, 696.

V 45
1905

and soft. The uterine cavity was filled with a cancerous growth, bathed in a milk-like liquid. (Microscopic examination.)

Haultain[3] believes that while fibromyomata may become secondarily malignant, this is by no means so common as might be inferred. Authentic thoroughly proved cases of sarcomatous change in a pre-existing fibroid are few, yet it is probable that all cases of encapsulated sarcomata are degenerating fibromyomata.

Von Franke, states that sarcomatous degeneration occurs in .75 per cent. of all cases, while Cullingworth met with one case of myxosarcoma in 300 cases of fibroid, and Noble only two in 258 cases. Von Franke has observed one undoubted case in 400, while in consulting the case book statistics of Professor Simpson's ward in the Edinburgh Royal Infirmary no instance has occurred in the last 300 cases of fibromyoma. In taking these statistics *en masse*, in only four cases out of 1,250 fibromyomata had sarcomatous change occurred. As a rule, he states, sarcomatous change occurs after or about the menopause and is perhaps the most common, but by no means the only cause of increase in size of a fibromyoma after the climacteric. From the rapid increase in the size of the tumor, severe pain is a very constant symptom. Thus, if after the menopause along with enlargement of a known fibroid there is pain and loss of strength, the diagnosis of sarcomatous change is almost certain. Cystic edematous infiltration and degeneration of fibroids with slight cellular proliferation resembling myxosarcoma, von Franke has observed on two occasions. In one of these, the interspaces were filled with a blood clot which gave the appearance of a telangiectatic tumor described first by Cruveilhier. In both cases the cellular proliferation, though assuming the embryonic type, was so scanty that one could hardly classify them as sarcomata. After removal there has been no sign of recurrence as was to be expected. He believes that malignant epithelial infiltration of fibromyomata is of extreme rarity, only one or two cases having been cited. In these instances, the original tumor has probably been adenomyoma, a tumor either due to Wolffian relics or to infiltration of the muscularis of the uterus by glands from the endometrium.

H. Smith[5] reports a case of calcareous degeneration of a fibroid tumor removed by supravaginal laparotomy. Recovery.

Dr. B. Fenwick[6] noticed that calcareous tumors invariably had very small pedicles and in cases he examined he found that the blood vessels were of a small caliber in comparison with the size of the tumor they had to supply. He thought, therefore, that the cause of degeneration was the want of an adequate blood supply. The walls of the ovarian and uterine vessels in cases of myoma were almost invariably greatly thickened, a condition described still more clearly by Mr. Stanhope Bishop more recently. Adhesions to the intestines and omentum were less common in calcareous cases than when the degeneration was more rapid.

B. Emmett[7] describes a fibromyoma filling the pelvis and a greater portion of the abdomen, causing pressure symptoms. One of the tumors was found on microscopic examination to have undergone colloid degeneration. Dr. Dougal Bissell mentioned two cases.

3. Trans. Edinburg Obst. Soc., 1903-1904, xxix, 167.
4. Encyclop. Geb., Langer. u. Huff.
5. Encyclop. Geb., Langer. u. Huff, 195.
6. Brit. Gyn. Jour., 1903 xlx, p. 209.
7. Amer. Jour. Obst., 1904, xlix, 547.

Francois Dainville[8] reports a case of cancerous degeneration of fibromyoma of the uterus.

Charles P. Noble[9] reports a case of the invasion of a fibromyoma of the uterus by an adenocarcinoma, which by metaplasia had assumed the appearance of a squamous cell carcinoma. There was an absence of cancer elsewhere in the body. He considers the important point in connection with this tumor to be the question of origin of the epithelial masses, and mentions the following sources reported in the literature:

1. Metastasis from tumor in other parts of the body. Such an extension has been reported by Schraper[10] from primary cancer of the lung.

2. Extension to myoma of cancer of uterus. Cases are reported by Bubl,[11] Röhrig,[12] Cullen,[13] Ruge and Veit.[14]

3. In the development of cancerous tumor from epithelium normally contained in fibromyoma of this type, the "myocarcinom" described by Liebmann[15] is not satisfactorily explained. Rolly[16] describes an intramural myoma presenting the picture of carcinoma, with metastasis in the liver and bones. The uterine mucosa was normal. He believed the uterine tumor to be primary and to have its origin in adenomyoma, which in turn had developed from the remnants of the Wolffian body. Complete physical examination showed no evidence of tumor in other organs, and the portion of cervix not removed appeared normal. Microscopic examination showed distinct evidence of development from the epithelium covering the tumor.

J. C. Webster[17] lists 210 cases of fibroid tumors treated surgically in which the degenerations were as follows: Calcareous 2, edematous 6, cystic 13, myomatous 4, suppurating 10, adenocarcinoma of cervix 1, sarcoma 2, hemorrhagic 3, necrobiosis 11; total 52.

Webster compares these findings with those of some other workers who have given particular attention to the subject in recent years. Thus Scharlieb in 100 cases of fibroid found degenerations in 26; Cullingworth in the same number found it in 52; Noble in 258 cases, found it in 47; Ellice McDonald in 280 cases, found it in 135.

E. McDonald[18] writes: "Since Martin in 1888 made his study of degeneration in 205 cases of fibromyomata, others have reported similar series; notably Noble[19] 258 cases, C. J. Cullingworth[20] 100 cases, Mary Scharlieb[21] 100 cases, and C. C. Frederick[22] 125 cases."

He summarizes the degenerations as follows: Fatty degeneration 7, calcareous infiltration 11, necrosis 55, cystic degeneration 34, telangiectasis 46, sarcoma 17, associated carcinoma of the cervix 15, associated carcinoma of the body 17, myxomatous (edematous) 8, associated syncytioma 1; total 788.

McDonald found degenerations as follows: Slight hyalin 18, moderately hyalin 32, marked hyalin 19, hyalin and calcareous 8, calcareous 14, calcareous, necrotic, hemorrhagic 2, cystic 8, myxomatous 4, hemorrhagic 6, necrotic 4, necrotic and hyalin 3, necrotic and

8. Bull. et Mém. Soc. An., Paris, 1903, lxxviii, 915.
9. Amer. Jour. Obst., 1904, xlix, 306.
10. Virchow's Arch., 1892, cxxix, 61.
11. Mitt. a. d. Path. Institute z. München, 1878, p. 291.
12. Zeitft. Geb. u. Gyn., 1880, vol, 265.
13. "Cancer of the Uterus," 1900, p. 410.
14. Zeitft. f. Geb. u. Gyn., 1881, vi, p. 261, 1882, vii, p. 138.
15. Virchow's Arch., 1885, cxviii, p. 82.
16. Virchow's Arch., 1898, cl, p. 555.
17. Amer. Med., 1905, ix, p. 401.
18. The Journal A. M. A., May 21, 1904, p. 1344.
19. Brit. Gyn. Jour., 1901, xvii, p. 170. Am. Gyn., April, 1903.
20. Jour. Obst. and Gyn., Brit. Emp., 1902, i, p. 3.
21. Jour. Obst. and Gyn., Brit. Emp., 1902, ii, p. 323.
22. Amer. Jour., Gyn., 1903, ii, 297.

cystic infected 1, adenomyoma 6, associated with adenocarcinoma 6, associated with squamous cell carcinoma of the cervix 2, sarcoma 3, deciduoma malignum 1; total 135.

He concludes as follows:

1. Fibroids producing symptoms and all fibroids except those designated as small (especially when subserous or intramural) should be removed because the risk to the patient from operation is far less than from the tumors themselves.

2. In view of the sarcomatous changes, carcinomatous associations and complications of uterine fibromyomata, early removal is indicated when they are of sufficient size to produce symptoms.

3. Thorough pathologic examination should be made of all fibroids for evidence of malignancy. Particular study should be devoted to those tumors which are necrotic, cystic, or both, as among these are found the largest proportion of malignant changes.

Charles P. Noble[23] of Philadelphia, says A. Martin[24] was probably the first to tabulate and to analyze degenerations of uterine fibroids, as follows: Fatty degenerations 7, calcification 3, suppuration 10, edema 11, cystic degeneration 8, telangiectasis 3, sarcoma 6, carcinoma of the cervix 2, carcinoma of the body 7; total 57.

Dr. Noble tabulated and analyzed 258 cases of both degenerations and complications. He classes these in three groups:

1. Those which would lead to a fatal result.
2. Those which would threaten the life of the patient.
3. Those which would involve more or less invalidism.

He estimated that 95 of these patients, or 36 per cent., would have died of the complications of the fibroid tumors had they not been operated on.

Charles J. Cullingworth[25] reports 100 cases, covering a period from 1892 to 1901, inclusive; of these 46 were typical fibromyomata, with no structural change evident to the naked eye; two showed telangiectatic change, and 52 presented pathologic degenerations, as follows: Edematous and myxomatous 27, myxosarcomatous 1, cystic or fibrocystic 5, calcareous 1, necrotic 18; total 52.

Pain as a predominant symptom is an indication of a degenerative process. The age of the youngest patient operated on was 28, the eldest 61; the preponderant ages 35 and 45. Two of the cases showed a marked increase in size after the onset of the menopause, with initiation of necrotic change at that period. The operation resulted fatally in both these cases. No conclusions are formulated.

Carleton C. Frederick[22] reports a series of 125 cases of both degenerations and complications. An estimate of probably 30 fatalities from complications alone may be made or about 45 per cent. from all complications.

Mary Scharlieb[21] reports in 100 cases the following degenerations and complications: Edematous and myxomatous 5, sarcomatous 6, cystic or fibrocystic 7, calcareous 2, necrotic 2, sloughing 3, carcinomatous 1; total 26.

Degenerations were found in one-fourth of the patients operated on; in one-half of these it was such as directly to threaten the life of the patient without any reference to hemorrhage or pressure effects. In two patients the tumors contained cysts and were also invaded by sarcoma. In 55 cases calcareous and sarcomatous changes had occurred. The age of the youngest patient was 18 years, that of the eldest 68.

In my 169 cases, degenerations were found as follows: Necrobiotic 10, sarcomatous 1, suppurative 1, calcareous 2, myxomatous 3, adenocarcinoma of body 3, telangiectatic 4, cystic 7; total 31.

Out of these 169 cases, I wish briefly to outline five cases which illustrate the impracticability and often the impossibility of a diagnosis of certain conditions in these growths prior to removal; also two patients not operated on at the time of the first examination, owing partly to the unwillingness to submit to operation and partly to an ill-advised deference on my part to the so-called classical teaching in the treatment of symptomless fibromyomata. The latter two patients died without operation.

CASE 1.—The patient came to me for consultation with regard to an abdominal tumor which on examination proved to be an interstitial fibromyoma of the uterus extending well up toward the umbilicus. She had few symptoms; her heart sounds were normal; her chief complaint was of the weight. There were no disturbances of menstruation. I advised operation, to which the patient demurred, saying it was giving her little or no trouble and she would not take the risk. A year later she appeared eager for an operation. A glance gave evidence that an operation was out of the question. Six weeks later she died; an autopsy revealed fatty degeneration of the myocardium. According to various authors[23]—(Hofmeyer, Fehling, Dower, Fenwick[24])—heart degenerations are a common result of neglected fibromyomata.

CASE 2.—An unmarried woman came to me with a fibroid tumor of considerable size not because she suffered from it, but because her neighbors were questioning her chastity. This was in the summer, and she preferred to wait until cooler weather for operation. Before the oncome of such weather as suited her, however, she was seized with a chill, followed by high temperature and rapid pulse, and died. Autopsy here showed extensive necrobiotic changes.

CASE 3.—This patient, aged 38, came to me complaining of a not particularly severe menorrhagia. There was some history of malaria. She did not know she had a tumor. Examination, however, revealed a uterine fibroma about the size of a cocoanut, low in the pelvis, with subserous nodules protruding from the surface of the larger mass. On removal the mass showed at various places throughout its interior small areas of softening which were easily indented, while the tissues had a tendency to break down on pressure. Microscopic sections through these areas showed plainly that the tissues had a tendency to break down on pressure. Microscopic sections through these areas showed plainly that the tissues were undergoing necrobiotic changes.

CASE 4.—A colored woman, aged 45, had a tumor which extended well above the umbilicus. She suffered considerably from menorrhagia and from pressure symptoms, although there was nothing in her condition which could be construed as threatening. As a matter of fact she was able to sustain herself and a rather large family by work at the washtub. A superficial examination of the tumor after its removal indicated that it was nothing more than a simple fibromyoma. A series of sections from different portions of the mass examined under the microscope, however, showed areas in which there were distinct evidences of sarcomatous degeneration.

CASE 5.—This patient also was a negress, aged 23, from whose sister I had a year before removed a fibromyoma, and this fact was probably responsible for her coming to me at a time when the tumor, so far as she knew, was giving her no trouble, although she was rapidly declining in health, a condition which she attributed to other causes. The tumor was of the interstitial variety and measured about 3 by 4 inches. On section the endometrium was found to be very much thickened, while high up in the cavity there was a small mucous polyp, in the neighborhood of which the endometrium

23. Amer. Jour. Gyn., 1903, ii, 297.
24. "Pathology and Therapeutics of Diseases of Women," Boston, 1890, pp. 268-272.
25. Jour. Obst. and Gyn., 1902, ii, 223.

was much more thickened and of brainlike consistency. On microscopic section extending from this area outward and involving the uterine musculature and the tumor growth, there were numerous projections which showed carcinomatous degeneration. In addition to this there were areas entirely cut off from the endometrium and surrounded by the fibrous tissue in which the alveoli were easily made out. This patient, operated on in March, is already showing evidence of return of the growth.

Case 6.—A woman aged 43 suffered but slightly from a tumor not larger than an orange. This tumor on removal proved not only to have undergone extensive calcareous degeneration, but telangiectatic degeneration also, so that the hemorrhage was excessive owing to the dilatation of the blood vessels as well as from the fact that the calcareous degeneration seemed to have invaded the vessel walls. The conditions found in this growth do not bear out the statement by Fenwick previously quoted. He holds that in calcareous tumors we usually find the blood vessels of small caliber.

Case 7.—This patient had a fibroid some 10 inches in its transverse diameter. In shape it was very much like an enormous kidney, attached by its hilum as it were, to the fundus of the uterus, the pedicle being some three inches in diameter. This tumor had been of little or no trouble to the woman until she had a fall, after which the symptoms of torsion of the pedicle appeared. The tumor was promptly removed and showed evidences of necrobiotic degeneration.

These cases all present one common characteristic, the lack of any symptom which would indicate any pathologic lesion other than the tumor itself. In one case, the patient was not aware that she had a tumor; yet of these cases, two patients died for want of an operation; one from necrotic changes, the other from changes in the myocardium, which condition, according to eminent authorities, is undoubtedly one of the results of neglected fibromyomata. Another of these cases illustrates a common form of the innocent fibroid, the tumor attached to the fundus by a long pedicle. By virtue of such attachment, it is little calculated to give rise to symptoms so long as it remains in its original position. There is ordinarily no menorrhagia. As it assumes some size, it rises easily out of the pelvis. It causes no pressure symptoms, but its very conformity makes it particularly prone to circulatory changes either from a deficient blood supply through its narrow pedicle or by torsion of the latter.

Of these cases, two patients died without an operation in which there were at least nine chances out of ten for recovery. One will die after the operation as the result of a general carcinomatosis appearing promptly after the removal of a fibroid tumor which had been extensively invaded by carcinoma from the endometrium. The others are alive and well. They are all of the class in which those operators who believe in the policy of procrastination, or who, to use their own expression, take a classical view of these cases, would have advised against operation.

It is hard to realize in this day of advanced and intelligent surgery that men of unquestioned standing will delay these operations, trusting to good luck or the menopause to do away with the symptoms of which these women complain. According to my observations, so far as the menopause is concerned, it aggravates rather than improves the symptoms in at least half the cases. The idea of the menopause curing such a thing as a fibromyoma is a relic of the surgical dark ages, and admitting the bare possibility of such a thing occurring, the chance is so small that it should not be taken by the intelligent modern operator.

In this connection, J. Bland Sutton[26] says: "Surely there is nothing in the whole range of surgery more ironical than a woman spending 20 or even 30 years of her life as a chronic invalid on account of a uterine fibroid, in the expectation that at the menopause she will be restored to health and begin a new life, and then to realize that, far from this being fulfilled, the fibroid becomes necrotic, extruded or septic, and places her life in the gravest peril, and that she may die in spite of surgical intervention."

John B. Deaver[27] says: "The mere fact that a woman has a fibroid tumor of the uterus is in no respect, however, an indication for its removal." In his opinion, no such growth should be removed unless it causes symptoms. In the seven cases mentioned above, there were at the time of examination practically no symptoms, yet as already stated, two of the patients died without operation; one from a degeneration, the other from a complication superinduced by the tumor and in the other five, operation revealed conditions which, had operation not been made, must necessarily have resulted in death or in an operation made on a patient whose vitality had been lowered by disease.

Deaver also states that he is thoroughly convinced that a myoma of the uterus which produces no symptoms is as nearly harmless as any pathologic change can ever be. It will be readily granted that a myoma is harmless as long as it remains harmless, but when one takes into consideration the large proportion of these tumors, which, according to statistics which must be accepted as accurate, do undergo degenerative changes, it is at once evident that time alone is necessary to affect pathologic changes threatening life. So far as the innocent fibroid is concerned, there is nothing so innocent, nothing so treacherous.

In respect to the statement that the dead house reports show large numbers of fibroids with which the women lived a long life in perfect contentment, Noble of Philadelphia says: "For those who are convinced that one of the classical position is correct, I would suggest that one of the strongest arguments that could be produced in support of their position would be to institute a careful research into the autopsy records of well-managed institutions in order to learn, first, in what proportion of women fibroid tumors are found at autopsy, and, second, what relation these tumors had to the state of health or to the death of the particular patients. It is a classical statement that many women live and die without the knowledge that they have had fibroid tumors. This statement I do not believe, but I would be quite willing to be convinced of its truth on adequate evidence."

Deaver further states, quoting McDonald's article, wherein he reports a series of microscopic studies of 280 cases, that there were 12 cases, or 4.28 per cent. of malignant degenerations; add to these the 14 cases of calcareous degeneration and the 4 necrobiotic degenerations, which conditions under the circumstances, in great probability, would result fatally, not to mention the other degenerations listed, we have 30 cases, or 10.7 per cent. A consideration of other statistics will give practically similar percentages. It is not possible, of course, to say how many of these patients Deaver would have operated on, but it is fair to assume that the diagnosis of the degenerations was not made in all of them before operation. In the same paper he reports a series of 105 cases, with a mortality of 2.85 per cent. His own small death rate is sufficient answer to his argu-

26. The Lancet, June 6, 1903.

27. Amer. Med., vol. 9, No. xv, page 601.

ment. Is it at all probable that the death rate would have been so small had these patients, whose cases he quotes from McDonald's table, not been operated on as soon as the tumor was diagnosticated? Take the five cases of so-called harmless fibroids which I list out of a series of 169 cases. Would these patients not all have died without operations?

It is a matter of curiosity as to what those operators who assume what Noble refers to as the classical or traditional attitude, do with other conditions in the abdominal cavity, conditions which are analogous in every respect to the so-called harmless fibroid. Recently I removed from a woman aged 73 an ovarian tumor weighing, with its contents, 30 pounds. She had carried this tumor for 25 years; she had never had any symptoms from it and was able to earn her own living. Would these classicists have allowed it to remain? They remove appendices in the interval, and small ovarian cysts; they remove symptomless gallstones from the gall bladder, not on account of any immediate danger, but on account of the fact that in no greater proportion than in fibromyomata of the uterus these various conditions will undergo changes threatening the life of the patient. For the same reason I remove all fibromyomata of the uterus.

In conclusion, considering the statistics, the accuracy of which can not be doubted, the low death rate in hysterectomy in the hands of competent operators and in cases not too long neglected, and particularly the fact that many of these tumors on removal reveal conditions threatening death, and which are not suspected, and can not be diagnosticated prior to operation, I am convinced that all fibromyomata should be removed unless there be concurrent conditions which render the operation inadvisable.

## DISCUSSION.

DR. FRANK T. ANDREWS, Chicago, said that he is absolutely opposed to the position taken by Dr. Eastman, because it is so dangerous that it is vicious. He has seen many patients go by the menopause; in fact, it is his hope to carry them past the menopause and to watch them get well, and the vast majority do get symptomatically well. It is impossible to say in how many of Dr. Eastman's cases the tumors would have become cancerous if let alone. Few of these cases develop into sarcoma.

DR. W. F. B. WAKEFIELD, San Francisco, declared that he is absolutely in accord with everything Dr. Eastman said. His is true, up-to-date teaching.

DR. J. H. CARSTENS, Detroit, asked in how many cases the growths undergo changes of various kinds, the result of interference with the circulation, and how many patients in a hundred will die if operated on. In his opinion more patients will undergo a change for the worse in the way of malignancy, septic conditions and adhesions if they are not operated on than would die if they were operated on. There is another thing to consider. A fibroid tumor is not appendicitis. An operation for fibroid ordinarily is not dangerous and one can select the time for operation. The patient can be put in such a condition that the operation will be almost free from any danger, and a man may be selected who is thoroughly competent to do the operation. The mortality will then be so small that the point made by Dr. Eastman is well taken. Every orthopedic surgeon operates on club feet, knock knees and deformities of all kinds in which the mortality is as great, and even greater, than it is in operations for fibroid. He operates for esthetic purposes or to restore lost functions, and the operation is justifiable. If the patient is young the tumor should be enucleated; if she is old the uterus and whatever else may be necessary should be removed. To let a woman go around with a tumor for ten or fifteen years is not good practice. It is the physician's duty to relieve the mental condition of that woman, to ease her mind and to make her mentally and physically comfortable. The patient, however, must be in good condition before an attempt is made to remove the fibroid.

DR. L. H. DUNNING, Indianapolis, agreed with Dr. Eastman in the main, but he would not like to be committed to the dictum that physicians should operate on every case of fibroid. It is true that 18 per cent. of fibroids undergo a dangerous degeneration, and, on the other hand, fibroid tumor operations—hysterectomy and myomectomy—do not, under favorable circumstances, give a mortality of more than 5 per cent.; that is to say, 13 per cent. is gained by the operative method. Many patients carry fibroids for fifteen or twenty years without any knowledge of the fact. They discover them accidentally when they are near the menopause. Many physicians have patients to show that 80 per cent. of fibroids undergo benign degeneration and absorption after the menopause. Given a woman 40 years of age, not suffering from the tumor, Dr. Dunning asked if gynecologists are not justified in assuring that woman that the probabilities are 80 per cent. in her favor that the tumor will disappear without harm to her. He would be exceedingly loth to undertake the removal of a tumor that produces no symptoms. If degeneration is taking place the signs are growth of the tumor, pain, fever, cachexia, increase of menstruation and painful menstruation. Dr. Dunning is of the opinion, based on considerable experience, that physicians are justified in many cases, especially when the patient is near the menopause, in watching the case, allowing the patient to go without operation when there are no symptoms. These patients, as a rule, take the matter cheerfully, and after the menopause their troubles gradually disappear.

DR. D. H. CRAIG, Boston, stated that to propose the rule of operating in every case of fibroid is as much empiricism as is the administration of medicine in certain diseases. It must be remembered that there are patients who need operation and there are some who do not, and the outcome of this discussion should enable gynecologists to distinguish between these two classes. He is not prepared to take sides now; he desires to remain on neutral ground and to decide which patients need operation and which do not. Of course, if the physician does not operate, he must keep the patient under close observation. It seems to Dr. Craig that this is the safest course to pursue.

DR. V. J. HAWKINS, St. Paul, said that he has found fibroids accidentally during confinement ten times where one patient comes to his office for advice. It is not wise to advise every woman who has a fibroid to be operated on. He has had many patients operated on, and they are not well after the operation. If this operation should be performed in every case good results should be obtained in a large majority of the cases, and that has not been Dr. Hawkins' experience. Knowing this, and also that many of these patients get entirely well after menopause, the tumor disappearing, he stated that he can not agree with Dr. Eastman's views.

DR. W. O. HENRY, Omaha, Neb., said that it would be a great mistake to adopt the rule that all patients with fibroid should be operated on. Gynecologists have not yet reached the point in abdominal surgery where they can say that the operation is entirely safe. It is a great mistake to urge operation when the fibroid produces no symptoms, for there is always a possibility that the patient may succumb to the operation, no matter how skillful the operator. Some women have small fibroids, and when the menopause comes on the fibroid disappears. If the tumor does begin to make trouble there is sufficient warning, and then is the time to operate. Women in the child-bearing period have fibroids, and during the involution following pregnancy the tumor sometimes disappears. Each case should be studied individually and treated on its own merits. In reply to a question Dr. Henry said that when the fibroid degenerates there will follow hemorrhage or a profuse discharge of the some kind from the uterus; then there is time enough to operate and save the patient. He has not seen patients die, but has seen them recover after pregnancy with uterine fibroids.

DR. R. T. GILMORE, Chicago, stated that hemorrhage as a

V 45
1905

symptom of the beginning of malignancy in fibroid tumors of the uterus is of questionable value, as hemorrhages frequently occur in small fibroids in which malignant changes can not be demonstrated. Hemorrhage especially aggravated at the menstrual periods is almost a constant symptom of simple fibroma.

Dr. C. L. Bonifield, Cincinnati, said that two years ago he reported five cases of pregnancy complicated by fibroids which seriously endangered the lives of the patients. One patient required a Cesarean section and two others Porro operations in order to save their lives.

## THE AFTER-EFFECTS OF DIPHTHERIA ON THE HEART.*

FRANKLIN W. WHITE, M.D.

Physician to Out-Patients at the Boston City Hospital, Assistant in Theory and Practice of Physic, Harvard Medical School.

BOSTON.

It is well known that in diphtheria the heart muscle and the nerves which control it are the seat of certain changes which more or less seriously disturb its function, and the clinical signs of circulatory disturbance at the height of the disease and during convalescence have been carefully observed by many authorities. Much less is known, however, of the after-effects of the poison of diphtheria on the heart.

Veronese[1] says that lasting effects on the heart—except a moderate hypertrophy—do not follow diphtheria.

Romberg[2] has seen the mitral insufficiency present in convalescence in several cases last several months and then disappear.

Steffen[3] reports a case of mitral insufficiency following diphtheria which has been under observation for over four and a half years, and which he considers not a case of relative insufficiency, but of genuine valvular disease.

Baginsky[4] says that the disturbance of the heart in diphtheria even when not acutely threatening may be important by its persistence for months afterward. Occasionally a chronic myocarditis or mitral insufficiency may be left behind which does not indicate its presence by symptoms of failure of compensation until years later.

Schmaltz[5] has shown by a careful study of 81 cases of diphtheria with heart complications, that while diphtheritic myocarditis clears up in the majority of cases within a few months, in others it often persists after an attack of diphtheria for several years at least, and probably for life in some. The clinical picture is that of a mitral insufficiency with very few symptoms.

Jacobi[6] says that after severe epidemics of diphtheria cases of chronic heart diseases are frequent; some cases have arrhythmia and murmurs for life. The physical signs are irregularity of the heart, reduplication of sounds, especially the first sound, with extensive murmurs over the mitral or pulmonic areas and now and then increase of the transverse cardiac dullness. He states that this condition of the heart may be modified by a long period of absolute rest and proper hygiene, with the occasional use of cardiac stimulants.

Last year, in studying with Dr. H. H. Smith[7] the heart complications in nearly 1,000 cases of diphtheria treated at the south department of the Boston City Hospital, it was found that while severe heart complications are relatively infrequent, moderate disturbance of the heart is very common in diphtheria, as indicated by the great frequency of heart murmurs and a rapid or irregular pulse. It was found that these physical signs of a greater or less degree of cardiac disturbance were of long duration in many cases, making it desirable to watch the condition of the heart long after convalescence.

About one-third of these cases left the hospital after a stay of one or two months with a pulse rate of between 100 to 120 (not including babies), and in about one-third of the cases the heart was irregular at discharge.

In about three-fourths of the patients one or more murmurs were present at discharge from the hospital, which were considered in the majority of cases to be organic on account of their character, position and association with accentuation of the pulmonic second sound and irregular heart action. The condition is probably one of relative mitral insufficiency resulting from changes in the heart muscle.

The large number of children discharged from the hospital with a rather rapid and irregular pulse and cardiac murmurs is very striking, and contrasts strongly with the condition of children at the end of other acute infections, such as measles and scarlet fever, or the condition of adults at the end of such acute infections as typhoid, grip or pneumonia, and it seemed very desirable to keep a group of such children under observation until the heart had entirely regained its equilibrium or until the presence of permanent changes in the heart were evident.

This paper consists of a clinical study of 78 cases of diphtheria with heart complications after their discharge from the Boston City Hospital. The cases have been under observation from five months to a year to determine the frequency, importance and duration of subacute and chronic disease of the heart following diphtheria.

The cases were chosen from a large material as follows: 1,431 cases of diphtheria were treated at the south department of the Boston City Hospital in the last year with a mortality of 136 cases, or 9.57 per cent.[8] Thirty-three very severe cases survived their illness, and of this number 29 have been carefully followed since discharge from the hospital. These very severe cases, with few exceptions, had serious disturbances of the heart during their stay in the hospital, as indicated by gallop rhythm, marked irregularity, cardiac enlargement, murmurs, and rapid pulse; several had laryngeal stenosis requiring intubation; about one-fourth of the number had severe peripheral paralysis.

In addition, during the last quarter of the year 71 cases whose illness was of mild or of moderate severity left the hospital with well-marked signs of cardiac disturbance, such as enlargement, murmurs, or irregularity. Fifty-one of these patients have reported to me for observation several times a month; two cases of earlier date are also included in our series.

Of the 83 cases which have been carefully followed, 3 have been excluded on account of heart lesions which had developed before the attacks of diphtheria, and 2

* Read in the Section on Diseases of Children of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

1. Veronese: Wiener Klinische Wochenschrift, 1893, vi, p. 305.
2. Romberg: Deutsches Arch. f. Klin. Med., 1892, vol. xlix, p. 413.
3. Steffen: Jahrb. f. Kinderheilk, 1898, xlviii, p. 285.
4. Baginsky: Nothnagels Specielle Pathologie und Therapie, vol. ii, 1899.
5. Schmaltz: Festschrift des. funfzigjahrigen Bestehens des Stadtkrankenhauses zu. Dresden Friedrichstadt, 1899, p. 155.
6. Jacobi: Med. News, 1900, xxvi, p. 729.
7. White and Smith: Boston Med. & Surg. Jour., 1904, cl. p. 433.
8. If cases dying within twenty-four hours of their admission to the hospital are excluded, the mortality is 6.75 per cent.

cases are not considered because the time of observation has been too short.

The 78 cases included in this paper consist of those in which there was no evidence of previous heart disease, and in which either the cardiac disturbance due to diphtheria has entirely cleared up or has been under observation for at least five months.

The patients' ages were as follows: None less than 1 year; 20 from 1 to 5; 33 from 5 to 10; 17 from 10 to 16; and 8 adults.

The sexes were about equally divided. Eight cases were mild, 42 moderately severe and 28 severe.

Most of the cases had murmurs, with more or less cardiac enlargement; about 20 were followed chiefly for other reasons, 5 because of persistent rapid heart action, 6 because of persistent irregularity, 4 because of early cardiac enlargement out of proportion to the other signs; also various severe cases without cardiac signs or symptoms were followed to see if any would develop later.

As shown by last year's paper, about 90 per cent. of diphtheria patients have some cardiac disturbance during their illness indicated by the development of murmurs, etc., but in one-quarter to one-half of the cases it is mild in type and of short duration, clearing up soon after the actual infection has passed and before the patients leave the hospital. In all the present cases it was more persistent and was evident when the patients went home.

*Duration.*—Sixty-five cases have become entirely well during observation as far as we are able to judge by the ordinary methods of examination; we have divided them into moderate and severe groups, and the following table shows fairly accurately the duration of the heart trouble, indicating the number of cases which had entirely cleared up during the intervals stated. The time is calculated from the onset of the attack of diphtheria.

| | 4th to 6th week. | 6th to 10th week. | 11th to 12th week. | 13th to 20th week. | 20th to 25th week. | 27th to 30th week. | 35th week. |
|---|---|---|---|---|---|---|---|
| Moderate ... | 4 | 14 | 11 | 8 | 1 | .. | .. |
| Severe ..... | .. | 4 | 10 | 2 | 1 | 3 | 2 |
| Total ..... | 4 | 18 | 21 | 10 | 2 | 3 | 2 |

In five cases the duration was not accurately determined, and 13 cases with cardiac lesions are still under observation.

The history of the majority of these cases is one of gradual disappearance of the cardiac signs extending over an interval of from two to four months. On the other hand, 20 patients, or about one-quarter of the whole number, still showed signs of cardiac disturbance at the end of four months' time, and of this number only six cleared up within the following two or three months.

Of the 13 cases with cardiac lesions at the present time, 5 have been under observation for five months, 4 for six months, 2 for eight months and 2 for eleven months. In some of these cases the cardiac lesions may clear up within the next year, in others I believe they may prove permanent.

It is evident that as a rule the patients with the most intense cardiac disturbance, those who have shown in the hospital marked irregularity of the heart, with gallop rhythm or reduplication, are the slowest to recover, taking four to six months or more.. This is not an invariable rule, however, as in one of the severest cases, in a child of 4, the only sign after leaving the hospital was a rapid pulse, which became entirely normal in two and one-half months after the onset of his illness. Five other children under 8 years of age whose hearts were seriously affected cleared up within the same time. On the other hand, among the patients having a mild attack of diphtheria is one child of 6 in whom irregularity of the heart persisted for five months.

### CLINICAL HISTORY.

Before describing the clinical history of these patients in detail I wish to say a few words about the examination and function of the child's heart in health and disease in order to avoid confusion.

Especial care is needed in examining the hearts of children and interpreting the results because in health the physical signs, such as the size and position of the heart and its rate and rhythm vary much with the age of the child and because in heart disease the signs and symptoms are not altogether like those in adults.

We must keep in mind the normal condition at different ages in order to fully appreciate pathologic changes. The pulse in early life is not only more frequent but is very much more variable than in adults. The pulse may even be irregular in healthy infants.

The heart is somewhat higher and more horizontal than in adults, therefore the apex beat is higher and further to the left. The apex is outside of the nipple line until the fourth year; more than one centimeter to the left, however, is pathological. From the fourth to the ninth year the apex is in or near the nipple line; after the thirteenth year it is invariably within the nipple line. From the end of the first year to the sixth year the relative cardiac dullness extends one or one and a half cm. to the left of the nipple line, and nearly to the parasternal line on the right side. From 6 to 12 years of age the left border is at or very near the nipple line and the right border between the sternal and parasternal lines. Any considerable deformity of the chest wall, such as is often found in rachitis, changes somewhat the heart's position in relation to it.

Functional murmurs are very much less common in children than in adults, and many competent observers deny their existence in the earlier years. The child's heart has greater powers of recuperation, and acquired heart disease runs a relatively favorable and mild course, the subjective symptoms are fewer, passive congestion is much less intense, and compensation is much more readily acquired.

I shall say very little about the condition of these patients during their stay at the hospital, having fully described the clinical history of a much larger number of cases in the paper already referred to. The signs of cardiac disturbance developed usually within the first week or two of the diphtheria and persisted during and after their discharge from the hospital; the milder cases remained in the wards about one month, cases of moderate severity from one to two months, and the severe cases, as a rule, from two to three months. Three cases stayed over three months.

### AVERAGE TYPE.

We will consider first the average type. With few exceptions the general condition of these patients was good when they reported to me after leaving the hospital and symptoms of heart trouble were conspicuous by their absence. The discrepancy between symptoms and physical signs was often very striking. The children usually returned to school within a month after leaving the hospital, took a moderate amount of exercise, and

often felt entirely well. At most there was slight complaint of palpitation or short breath after active exercise.

It is not fair, however, to measure the character of the case by the symptoms or to conclude that the heart trouble is trifling because few symptoms appear. In spite of the scarcity of symptoms the presence of a heart lesion was plainly shown by a variety of physical signs.

One important physical sign was cardiac enlargement, usually accompanied by a systolic murmur at the mitral area and an accented pulmonic second sound. It was present in 31 cases, comprising most of those of long duration. It was not found in those which cleared up within a few weeks after their discharge from the hospital. It was undoubtedly due largely to dilation of the heart, and was usually much more apparent when the child reported a week or more after leaving the hospital than at the time of discharge, evidently showing that the child had been too active after leaving the quiet wards and the heart had not been equal to the strain.

The increase in the area of relative cardiac dullness was usually more to the left than right, and at its height the left border was one to two cm. and the right border one-half to one cm. further out than normal for the age. The apex beat was about one cm. further to the left than normal. This large cardiac area lessened gradually, month by month, till within normal limits, in the cases which recovered.

The most frequent sign was the presence of murmurs; they were found after discharge from the hospital in all but 17 of the cases. They were always systolic in time; were heard most frequently over the mitral area, less often over the whole precordia, were frequently transmitted to the axilla and usually accompanied by an accentuated pulmonic second sound. They were usually blowing in character, but were musical or alternately musical and blowing in about 10 per cent. of the cases. They were usually increased by muscular exertion.

In 35 cases the murmurs indicated by their position, character, transmission and association with cardiac enlargement and accented pulmonic second sound, the presence of a relative mitral insufficiency, or possibly in exceptional cases of a mitral endocarditis. In a few older children and adults, however, with normal, regular pulse and a heart of normal size, a systolic murmur was heard at the base of the heart, which was sometimes affected by respiration and change of position of the patient. These murmurs disappeared with improvement of the patient's general condition and were considered to be probably haemic murmurs. There seems little danger of confusing haemic with organic murmurs in this investigation, because of the rarity of haemic murmurs in children and the lack of anemia in these cases.

The pulse was usually a little more rapid than normal, and in 5 cases a rapid heart action was the only sign of importance. Irregularity of the pulse was frequently met with in the first few weeks after leaving the hospital. In eight cases the irregular action was the only striking sign of heart trouble.

It seemed wise to advise a quiet life in the presence of definite cardiac disturbance, but it was often difficult to control the patients, and a considerable number attended school and took moderate exercise while cardiac murmurs and irregularity were present, without any symptoms or perceptible bad results.

It is impossible to determine in individual cases the anatomical cause of these clinical signs, but it is doubtless a faulty closure of the mitral valves, due chiefly to dilatation of the valvular ring or imperfect function of the papillary muscles, and only in an occasional rare case to a mitral endocarditis.

Autopsies have shown the rarity of endocarditis in diphtheria, and the clinical fact that the majority of the cases apparently recover speaks against frequent injury to the valves.

The following condensed histories illustrate the course of the disease in cases of moderate severity. Cases 32, 49, 53, 70 and 77 are typical patients, with murmurs and cardiac enlargement of moderate duration. Case 42 is a type of the persistently rapid heart without other signs, and Case 7 of the persistently irregular heart.

Case 7.—Girl, 6 years, mild diphtheria. First week: Pulse regular, 95, normal. Third week: Left hospital; pulse slightly irregular, 95; heart normal size, blowing systolic murmur over mitral area not transmitted; pulmonic second not accentuated; no symptoms. Remained at home one month; since then in school; slight irregularity persisted for nineteen weeks; absent at the end of twenty weeks.

Case 32.—Girl, 6 years; moderately severe case. First week: Pulse irregular and rapid (100 to 160); heart normal size; soft systolic murmur at apex, not transmitted; pulmonic second accentuated. Eighth week: Left hospital; pulse regular, 115; heart same; slight debility after diphtheria; not sent to school. Twelfth to sixteenth week: Pulse regular, 100; heart dullness from 2½ cm. outside of left nipple line to right parasternal line; no murmurs. No symptoms. Twenty-second week: Pulse regular, 86; heart normal size; no murmurs.

Case 42.—Boy, 11½ years; moderate case of diphtheria, followed by palatal paralysis; in bed four weeks. Fourth week: Pulse regular, 100; heart normal. Eighth week: Left hospital; pulse regular, 110; heart normal in size without murmurs. Thirteenth week: Pulse became normal after being persistently rapid (110) and slightly irregular at times; heart normal.

Case 49.—Girl, 5 years; moderate case. First week: Pulse regular, 95; heart normal. Third week: Left hospital; pulse regular, 95; heart normal size; soft systolic murmur over mitral and pulmonic areas, not transmitted; pulmonic second sound slightly accentuated. Fourth week: Slight paralysis of legs. Sixth week: Pulse regular, 80; heart dullness from 2½ cm. outside of left nipple line to right parasternal line; apex beat ½ cm. outside of nipple line in fourth interspace; musical systolic murmur over mitral area, transmitted to axilla and base; pulmonic second sound accentuated; child was found to become tired and pale after moderate exertion; symptoms disappeared with a few weeks' rest. Sixteenth week: Left border of the heart dullness was only 1 cm. outside of the nipple line; the musical murmur persisted. Case still under observation.

Case 53.—Girl, 12 years; moderately severe case. Second week: Pulse regular, 90; heart normal. Fourth week: Left hospital; pulse regular, 100; heart dullness from ½ cm. outside of left nipple line to right sternal edge; soft systolic murmur loudest over mitral area; heard also over pulmonic area. Ninth week: Pulse regular, 96; heart dullness from 2 cm. outside of left nipple line to 1 cm. beyond right sternal edge; apex beat fifth space just outside of nipple line; murmur continued same. Fourteenth week: Pulse normal; heart normal in size; soft systolic murmur was heard at base only after exercise and with the patient lying down.

Case 70.—Girl, 10 years; moderate severity. Second week: Slight laryngeal stenosis, not intubed; pulse regular, 100; heart normal size, blowing systolic mumur at apex, not transmitted. Eighth week: Left hospital; pulse regular, 92; heart normal size; blowing systolic murmur over mitral and pulmonic areas, slightly transmitted. Tenth week: Pulse 100, irregular on exertion; heart dullness from 2 cm. outside of

left nipple line to 1 cm. beyond right sternal edge; apex beat fifth space just outside nipple line; murmurs continue same; pulmonic second sound accentuated. Sixteenth week: Pulse same; heart same except that murmur at base of heart has disappeared; no symptoms; case still under observation.

CASE 77.—Woman, 26 years; moderately severe case; in bed ten days. First week: Pulse regular, 110; heart normal size; blowing systolic murmur over entire precordia, loudest at apex, transmitted slightly to axilla; pulmonic second accentuated. Second week: Left hospital; pulse regular, 108; heart normal size; systolic murmur at apex, slightly transmitted. Third week: Pulse regular, 100; heart dullness from 1 cm. outside of left nipple line to 1 cm. beyond right sternal edge; apex beat fifth space in nipple line; murmur same; no symptoms save slight debility. Fifth week: Pulse regular, 80; heart normal size; no murmurs.

### SEVERE TYPE.

The severe cases were usually kept in bed from 4 to 8 weeks, and did not leave the hospital until the end of the second or third month. The symptoms of heart trouble were more evident and were striking in occasional instances. Palpitation was frequently complained of, in others the mother noticed weakness, pallor and faintness after exertion; one or two older children complained of cardiac distress.

These symptoms were most pronounced in the first few months after leaving the hospital and gradually disappeared. In several cases the attacks of palpitation and rapid pulse after slight exertion persisted for more than six months. Where these symptoms were at all prominent a very quiet life was advised with intervals of rest in bed. There was no cyanosis or edema.

As in the milder cases cardiac enlargement was present in most of the cases of long duration, it was not common while the patients were in the hospital, but showed itself after their return home, and was undoubtedly due to cardiac dilatation from over exertion. The increase in the area of cardiac dullness was similar to that found in the milder cases, but was usually much more persistent. The murmurs were similar in character; the first sound at the apex was normal or slightly enfeebled, late reduplication of the first sound was occasionally met with and in one case has persisted for ten months.

The pulse was usually considerably more rapid than normal and was easily increased from 30 to 40 beats by slight exertion.

Irregularity of the pulse was frequently met with, and in many instances persisted for months; this was also increased by any exertion.

The following cases which have been under observation for from six months to a year illustrate the course of the disease in severe infections. Cases 17 and 33 are typical ones of moderately long duration, one having cleared up at the end of nine months and one being still under observation. Case 48 is an example of persistent reduplication of the first sound with enlargement, Cases 9 and 51 of persistently rapid hearts, and Case 13 of a persistent irregularity of the heart.

CASE 9.—Boy, 14 years; very severe case; in bed five weeks. First week: Pulse persistently irregular and rapid, 120; heart dullness from 1 cm. outside left nipple line to right sternal edge; no murmur. Eighth week: Left hospital; pulse slightly irregular, 110; heart dullness from 1 cm. outside left nipple line to right sternal edge; no murmur. Heart remained rapid for two months after discharge; only symptom dyspnea after active exertion; did not go to school for five months. Twenty-third week: Pulse regular, 100, not especially increased on exertion; heart normal size; no murmur.

CASE 13.—Girl, 7 years; very severe case; in bed four weeks. Second week: Pulse, marked irregularity, 100 to 130; heart dullness from 1½ cm. beyond left nipple line to right parasternal line; no murmurs. Sixth week: Left hospital; no symptoms except those of moderate debility; pulse irregular, 100; heart normal size; no murmurs. Tenth week: Heart irregularity has gradually disappeared.

CASE 17.—Girl 7, years; very severe case; temperature 101 to 103 for three weeks; in bed seven weeks; occasional attacks of blueness and pallor. Second week: Pulse irregular, 120 to 140; heart dullness from 1 cm. outside left nipple to right sternal edge; no murmurs; reduplication of first sound. Ninth week: Left hospital; paralysis of legs one month; pulse irregular, 120; heart normal size; no murmurs. Eighteenth week: Pulse irregular, 84; became more irregular and 108 after very slight exertion; heart dullness from 1½ cm. outside left nipple line to right costal edge; first sound weak; second aortic sharper than second pulmonic sound; systolic murmur at base and apex, loudest at base, slightly transmitted to axilla; no symptoms. Twenty-sixth week: Pulse weak, regular, 90 to 100; heart dullness from 1 cm. outside left nipple line to right costal edge; apex just outside nipple line; murmurs same; heart action stronger; no cardiac symptoms. Forty-second week: Pulse regular, 88; heart dullness from 1½ cm. outside left nipple line to right parasternal line; apex 1 cm. outside nipple line; systolic murmur at apex and base, loudest at apex; slightly transmitted to axilla, increased by exertion; pulmonic second sound accentuated; no symptoms; general condition good; case still under observation.

CASE 33.—Boy, 5 years; very severe case; in bed seven weeks. Second week: Pulse irregular, 110 to 130; heart normal size, no murmur; reduplication of first sound and gallop rhythm. Thirteenth week: Left hospital; paralysis of palate and legs; pulse regular, 105; heart normal size, slightly musical systolic murmur at apex slightly transmitted; pulmonic second accentuated. Thirty-third week: Pulse regular, 90; heart became slightly enlarged; now normal size; musical systolic murmur at apex slightly transmitted; pulmonic second accentuated; no symptoms. Thirty-fifth week: Pulse regular, 80; heart normal size; no murmurs.

CASE 48.—Boy, 7 years; very severe case; in bed seven weeks. First week: Pulse irregular, 120; heart normal size; persistent reduplication of first sound; blowing systolic murmur at apex, not transmitted. Eighth week: Left hospital; pulse irregular, 100; heart normal size; occasional marked reduplication of first sound; systolic murmur at apex not transmitted; pulmonic second slightly accentuated. Thirty-seventh week: Murmurs have slowly disappeared; heart has notably enlarged; no cardiac symptoms; pulse regular, 80; heart dullness from 3 cm. outside left nipple line to right parasternal line; constant reduplication of first sound at apex; entered school six weeks after leaving hospital; case still under observation.

CASE 51.—Man, 28 years; moderately severe case. First week: Pulse regular, 90; heart normal size; soft systolic murmur at apex and base, loudest at apex; pulmonic second sound accentuated. Second week: Pulse irregular and rapid (120), after very slight exertion; heart same. Fourth week: Syncope after slight exertion; pulse irregular and intermittent; occasional attacks of violent palpitation with cold sweat; heart normal size, no murmurs; kept in bed for one month. Fourteenth week: Heart still rapid, 110 to 120, after slight exertion; otherwise normal. Twentieth week: General condition good; returned to work. One year: For past six months heart becomes rapid, 120, after even moderate exertion; this condition gradually improving; no other cardiac symptoms or signs.

### PROGNOSIS.

We find that in a large number of cases the cardiac disturbance after diphtheria soon clears up, but that in a considerable number it lasts a long time. In thirteen cases, or about 17 per cent. of the number studied, the heart trouble is now present after the end of five or six months, the longest cases now under observation being two for eight months and two for eleven months.

We have seen several cases in which the cardiac disturbance has lasted seven and nine months entirely clear

V 45
1905

up. Schmaltz has seen this happen in quite a number of cases after one or even two years' duration, which shows that it is not necessary to give up hope of recovery in individual long cases.

We have seen that the duration of the heart trouble is usually in proportion to the severity of the original illness, but this is not always the case. Occasionally a quick recovery follows a severe illness, and sometimes disturbance of the heart persists for many months after a mild diphtheria.

Schmaltz cites a few cases in which heart disease developed after normal convalescence and first showed itself one or two months after the attack of diphtheria; we have not found any such cases of late development.

The fact that most children have few or any heart symptoms after diphtheria must not mislead us as to its real effect on the heart. In childhood the heart has great reserve force and it is capable of doing good work even under very unfavorable circumstances.

### TREATMENT.

The after-treatment consists in a sufficient period of rest in bed, and then in watching the effect of mild exercise on the heart, for several months at least, and grading it to meet individual requirements. Tonic drugs, such as strychnia and iron, are occasionally useful.

How rigidly the rest cure must be enforced depends entirely on the individual case. We found last year in our study of cases in the hospital that it was not necessary to keep all patients in bed who had cardiac murmurs and a pulse which was slightly irregular and somewhat increased in rate. After four or five weeks of rest in bed the cases of moderate severity experienced no ill effects from being allowed to sit up for short and progressively longer intervals if the heart was carefully watched; frequently the heart's action seemed to be improved by this change.

We have also seen that many mild cases after leaving the hospital with murmurs and slight cardiac enlargement and irregularity became entirely well in a month or two without special care. I believe it would be a mistake to invariably keep these children at home and put them to bed, but over exertion should be carefully guarded against.

I have no doubt that much of the cardiac dilatation which was often seen in the first few weeks after leaving the hospital could have been avoided by more intelligent restraint of these children at home. Even the milder cases should be carefully watched and whatever causes shortness of breath, pallor or fatigue, or affects the heart unfavorably by notably increasing the pulse rate, causing irregularity or any increase in the cardiac area should at once be stopped, whether it consists of running, walking, playing or even in simply being out of bed. The heart must be given abundant opportunity to rest and recover its normal function. This is the only conservative treatment and the only way to avoid permanent damage to the heart in some instances.

All the severe cases require rest in bed and careful watching of the heart for months or years afterward.

### CONCLUSION.

1. The cardiac disturbance after diphtheria usually presents the picture of a mitral insufficiency with irregular heart action and few symptoms. Occasional cases have rapid pulse or cardiac irregularity without any other signs.

2. Moderate disturbance of the heart is very common after diphtheria and in a large number of cases persists from two to six months after the original illness.

3. In many cases the cardiac lesion does not clear up in the first half year, but lasts much longer; some ultimately recover; others probably do not. The duration of the heart trouble is usually in proportion to the severity of the original illness.

4. The fact that children often have few heart symptoms after diphtheria must not mislead us as to the importance of the injury to the heart.

5. Cardiac disturbance of long duration following diphtheria may be entirely recovered from. It is not necessary to give up hope of recovery in individual long cases.

6. The treatment of this condition consists in a sufficient period of rest in bed, and then in watching the effects of mild exercise on the heart for several months at least and grading it to meet individual requirements.

This paper is called a preliminary report because it is very desirable to keep those patients who still have heart lesions under observation for several years, and every effort will be made to do this.

In closing, I wish to thank Dr. J. H. McCullum, medical director of the south department of the Boston City Hospital, and Dr. A. E. Steele, assistant resident physician, for their hearty co-operation; also Dr. J. L. Morse and Dr. H. H. Smith for notes on two cases.

### DISCUSSION.

Dr. G. R. Campbell, Augusta, Maine, declared that the thing which impressed him strongly was the necessity of rest after diphtheria as a preventative treatment for the after effects on the heart. Many physicians are apt to consider their diphtheria patients entirely recovered as soon as the throat is cleared and the patient able to sit up. The action of the heart after moderate exercise, simply the rapid action of the heart, should be a warning that the heart muscle has not resumed its normal tone. If these patients were put to bed as soon as rapid action after moderate exercise is noted Dr. Campbell thinks physicians would be enabled to prevent many of the dangerous after effects of this disease on the heart.

Dr. H. M. McClanahan, Omaha, Neb., said that since the introduction of antitoxin the number of heart lesions following diphtheria has seemed to increase. Among the laity he is frequently asked whether there is any danger in using the antitoxin; he would say not, and yet there is a feeling fostered by some members of the profession that antitoxin is a dangerous remedy. It is not understood that diphtheria is dangerous to the heart. Antitoxin is an excellent remedy, but physicians can not guarantee that it will undo the injury done by the toxins of diphtheria. The time of its administration is an important element. Dr. McClanahan has found that within the last two years the prejudice has grown because of the statements that it is injurious to the heart. After the throat has cleared up the patient is too often considered practically well; this is not true. The danger to the heart should be watched and great care taken to keep the child quiet in bed until the pulse has resumed its normal rate. The child should then be carefully watched to note the effect exercise has on the heart muscles.

Dr. W. J. Butler, Chicago, said that the deleterious effects of diphtheria on the heart are to a considerable extent in proportion to the delay in administering antitoxin. Patients receiving antitoxin within the first forty-eight hours seldom show any after effects on the heart. Cases in which it is administered at a later period after the diphtheria has exerted its full effect on the heart may show very positive disturbances that may be of a fatal character. The value of the systolic murmur as indicative of mitral insufficiency, he thinks is slightly overrated in these cases. In almost any of the severe acute infections there may be systolic murmurs over the heart without any organic lesion, either relative or acquired; in other words, accidental murmurs. A heart so affected as to

permit of the occurrence of a relative insufficiency will be accompanied with the most profound symptoms of incompensation. The systolic murmur *per se*, whether heard at the apex or base, can hardly be regarded as of positive diagnostic value. In some cases in which the heart is quite widely dilated and one would have every reason to suspect a mitral insufficiency, there will be absolutely no murmur. On the other hand, a heart not enlarged may give a systolic murmur over the apex or base; likewise, an accentuated second sound. Pulse irregularity, both in quality rhythm and rate, and dilatation of heart, are certainly the most important physical points in determining the deleterious effects of the diphtheria toxins on the heart.

DR. ARTHUR W. FAIRBANKS, Boston, thinks there is no doubt but that the cases of heart lesion following diphtheria have seemed to increase since the use of antitoxin, but he believes the chief factor in the increase is the fact that so many patients who had had a very severe type of diphtheria are now living. Formerly such patients died during the diphtheria. That the children get up too soon is a very important point; the fault lies not with the parent alone, but with the family physician. Dr. Fairbanks has frequently seen children up and out of bed in a couple of days after the diphtheria. The clearing of the throat has been taken as a sign by the parents that the child should be allowed to get up, and the family physician is only too ready to yield to the importunity of the parent. Fortunately, through the quarantine laws, some of these children are kept in a room for a good many days after they are apparently well. This is a blessing to the children. Dr. Fairbanks recently saw a child seven months after discharge from the hospital. The child was 10 years old and she had a pure dilatation of the heart with marked subjective signs of muscular incompetency. She was put to bed and the heart came down and there was then no souffle, showing that the heart dilatation was not due to an organic lesion, but to myocarditis. The child was seen two weeks after getting up and was found to be in good condition, and there have been no subjective symptoms since. He thinks the occurrence of the souffle after the fever as a rule is an indication of mitral insufficiency. During the acute stage of the diphtheria he does not think it can be so interpreted. In many cases he thinks this insufficiency is only a relative one. In this country physicians have not considered sufficiently the method of Schott for the treatment of heart disease. Dr. Fairbanks believes that the baths, the resisted muscular movements and massage are of value in these cases of muscular insufficiency of the heart.

DR. C. F. WAHRER, Fort Madison, Iowa, stated that when patients of this kind are first seen inquiries should be made regarding the previous diseases the child has had. The heart lesion is often found to be secondary to some other process. He suggested that at the next meeting some one read a paper on heart diseases of primary and secondary character. He mentioned one case showing the importance of rest after diphtheria. Four children in a family had diphtheria. The first was apparently making a good recovery, and he instructed the parents not to allow this child to make any exertion; that she needed to be at rest, kept in a horizontal position. They did this for about ten days. He called occasionally at the house to see the other children. One morning, while the parents were at breakfast, the child was lying in bed when she noticed that micturition started. She called to her parents in a startled tone, and when they reached her she was sitting on the commode, dead. This case was undoubtedly one of muscular failure, dependent on degeneration changes from the diphtheretic intoxication. Dr. Wahrer emphasized the point brought out by Dr. Fairbanks relative to the apparent increase of heart disease after the use of antitoxin. That increase is only apparent, and it is similar to the apparent increase in the number of surgical operations.

DR. H. E. GARRISON, Dixon, Ill., said that nothing has been said concerning the diet in diphtheria. In one case which she had under observation before antitoxin came into use she kept the child perfectly quiet in bed. The throat had cleared up and the child seemed to be perfectly well. The grandmother concluded that she needed something to eat and she gave her hard-boiled eggs. The next day when Dr. Garrison saw her the pulse was very rapid and that night she died. Dr. Garrison thinks that it is necessary to emphasize the kind of diet needed and to keep these patients on a light diet for several days after the subsidence of the disease.

DR. KATE LINDSAY, Boulder, Colo., emphasized the importance of Dr. Garrisons remarks concerning the necessity of careful dietary. Dr. Lindsay had two cases which illustrate the subject. One was a case of heart lesion before the use of antitoxin and one after. Physicians emphasize the importance of physical rest and make that all-important in all cases of heart lesions. A child may be kept physically still, and yet if subjected to nervous excitement the results may be quite as bad. The question in Dr. Wahrer's case might be raised whether the child died of nervous shock or as the result of the muscular exertion. The treatment in any disease in which the heart is injured is a broad subject and as yet has not been sufficiently studied.

DR. WILLIAM J. BUTLER, Chicago, does not believe that physicians can accept the presence of a systolic murmur following diphtheria as an evidence of cardiac disease. These cases sometimes continue for months with a systolic murmur, which is apparently considered a sign of relative insufficiency. Mitral insufficiency of relative character presupposes a considerable dilatation of the heart. A systolic murmur alone does not indicate relative insufficiency. It is a common thing to find these accidental murmurs in children who had not previously had an acute infection of any kind. He emphasized the fact that the presence of a systolic murmur *per se* following diphtheria can not be accepted as an evidence of cardiac disease unless there is a very marked dilatation of the heart, especially of the left ventricle.

DR. JOHN LOVETT MORSE, Boston, did not agree with Dr. White that functional murmurs in the heart were rare in childhood. Dr. Morse thinks that they are very common in childhood.

---

## *Special Article*

## IMMUNITY.

### CHAPTER XXVIII.

### TUBERCULOSIS AND PSEUDOTUBERCULOSIS IN ANIMALS.

Certain differences between the bacilli of human and bovine tuberculosis were mentioned in the preceding chapter. In cattle the disease shows a characteristic tendency to remain localized in one organ or group of organs over a long period. It is a nodular disease as in man, but differs from human tuberculosis in that the nodules often grow to large size, may be imbedded in and sharply differentiated from surrounding healthy tissue, and not infrequently involve serous surfaces, forming large masses of firm sessile or pedunculated tumors. The nodules frequently are fibrous from the beginning, undergo early and extensive calcification and rarely soften. We are not to understand, however, that miliary tuberculosis does not occur in cattle. Although the process in the lungs is usually of a fibrous and large nodular nature, rapid dissemination with formation of many miliary tubercles may cause the picture of acute tuberculous consolidation in a certain number of cases. According to the statistics of Ostertag, based on 43,000 cases of bovine tuberculosis, localization is as follows: Lungs, 75 per cent.; pleura and peritoneum, 50 per cent.; peribronchial glands, 60 per cent.; spleen, 40 per cent. In more or less generalized cases the lungs are involved in 100 per cent. of the cases; serous membranes, 90 per cent.; liver, 85 per cent.; digestive tract, 60 per cent.; spleen, 50 per cent.; kidneys, 30 per cent.; mouth cavity, 5 per cent. In cows the uterus, in general infection, is involved in 65 per cent. of the cases, the udders in from 5 to 10 per cent., and the ovaries in 5 per cent. It seems that the lungs are the most common infection atrium, and transmission probably is accomplished chiefly through the secretions of the respiratory passages. In the udders the process may at first be one of miliary tuberculosis, but a large amount of fibrous tissue forms in time, many acini are transformed into retention

**Bovine Tuberculosis.**

cysts, in which tubercle bacilli, free or intracellular, may be present in large numbers.

Aside from anatomic changes and clinical symptoms, diagnosis depends on the tuberculin reaction, and, in relation to the udder, the demonstration of bacilli in the milk by staining methods or inoculation into guinea-pigs.

The tuberculin reaction in cattle is similar to that in man and is subject to the same general limitations, but is used extensively with the most satisfactory results. The complete elimination of tuberculosis from herds of cattle is possible, by using tuberculin as a diagnostic test, the slaughtering of infected animals, and the disinfection of stalls.

Tuberculosis among sheep and goats is rare. It occurs occasionally in the horse, hog and dog, and with more frequency in the cat.

**Avian Tuberculosis.**

A form of tuberculosis is very common in the chicken, and attacks also the pheasant, dove and turkey. The duck and goose are exempt from it. Although the organism resembles that of human tuberculosis in size, staining properties and other general characteristics, differentiation is accomplished by means of the following points: 1. The avian bacillus shows a greater tendency to pleomorphinism as shown by club-shaped forms, unstained vacuoles, "spore-like" bodies, and branching threads. 2. It has a greater affinity for aqueous anilin dyes. 3. Growth takes place in artificial media more rapidly and on solid surfaces is characterized by its moist appearance and mucus-like consistence in contrast to the dry, warty, brittle growth of the human bacillus. 4. The optimum temperature for growth (from 40 to 45 C.) is several degrees higher than that of the mammalian organism. 5. Its pathogenicity for guinea-pigs is less and for rabbits greater than that of the human and bovine bacilli. Their difference in pathogenicity is further shown by the difficulty which is met in trying to infect fowls with the human bacillus. By varying the conditions of cultivation and by animal passage the two may be made to resemble each other very closely, although the permanent transformation of the human into the avian, or vice versa, has not been accomplished.

**Tuberculosis of Fish, Etc.**

The disease attacks especially the intestines, mesentery and liver, in which are found hard, yellowish-white nodules, often rich in lime salts, and varying in size from that of a pea to that of a walnut. These conditions suggest the intestines as the infection atrium. The foci are rich in bacilli and histologically show the essential characteristics of tuberculosis.

*"Bacillus tuberculosis piscium"* is the name given to an acid-fast organism resembling the tubercle bacillus which was cultivated from an inflammatory tumor in the abdominal wall of a carp. It grows well at low temperature, the optimum being 25 C., is found in large numbers in the lesions within giant cells, and is distinctly pathogenic for frogs. Certain authors state that the human bacillus when inoculated into the frog undergoes changes in its cultural and pathogenic characteristics, eventually resembling the organism cultivated from fish.

Similar bacilli have been cultivated from a form of tuberculosis in the turtle (Friedman), and *Blindschleiche*—blind worm (Moeller).

**Other Related Organisms.**

Certain other organisms of low pathogenicity resemble the tubercle bacillus in their acid-fast properties, their ability to grow in the form of branching threads, and to produce tubercular or nodular infections of a local nature in animals. They may be placed in a group which includes the tubercle bacillus.

C. Fraenkel, also Neufel, recognize in smegma two acid-fast bacilli, calling one "tuberculoid" because of its morphologic resemblance to the tubercle bacillus, and the other "diphtheroid" since it shows the pleomorphism of the diphtheria bacillus. One of these organisms may be identical with the "syphilis bacillus" (?) of Lustgarten. Smegma bacilli are most numerous beneath the prepuce in man and about the clitoris and vulva in women. Their chief significance lies in the danger that they may be mistaken for tubercle bacilli in suspected cases of genitourinary tuberculosis. Smegma bacilli may readily enter the urethra in women and be carried into the bladder during catheterization or cystoscopic examination. In man the danger of bacteriologic error may be eliminated largely by cleansing the glans and carefully irrigating the urethra. Urine which is then passed is not likely to contain smegma bacilli (Young and Churchman).

"Milk bacilli" and "butter bacilli" are acid-fast organisms resembling the tubercle bacillus morphologically. In injecting milk into guinea-pigs as a test for tuberculous milk, Petri occasionally noted, as a consequence, a thick membranous growth which encased the liver and spleen and bound the coils of intestines together. The omentum was thickened, and this structure and the mesenteric lymph glands contained nodules. In pure culture the organism is pathogenic for guinea-pigs only when given in large doses, and may kill the animals in several weeks with the anatomic changes noted above. Its virulence is increased by the simultaneous injection of butter. It is not pathogenic for man (Herbert).

Moeller cultivated organisms resembling the tubercle bacillus from timothy (timothy bacillus), from manure, and a third (grass bacillus II) from the dust of a manger. The last is marked by great pleomorphism, thread formation and motility in young cultures.

**Pseudotuberculosis in Animals.**

Although some of the organisms described above are often called pseudotubercle bacilli, the term pseudotuberculosis is now applied somewhat specifically to a nodular disease occurring in rats, mice and sheep (and perhaps in other domesticated animals), and in which organisms differing from the tubercle bacillus in staining and culture properties, morphology and pathogenicity, are found. The clinical course and anatomic changes are similar in the three animals mentioned, although the organisms are different. The lymph glands near the infection atrium become enlarged chiefly by a cellular infiltrate rather than extensive proliferation of fibrous tissue. The nodules undergo a soft caseation very edrly and rarely show calcification. The infection finds its way to other sets of lymph glands and may become more or less generalized with the formation of smaller and larger sized nodules.

**Rats and Mice.**

Pseudotuberculosis of rodents, occurring spontaneously in rats, guinea-pigs, rabbits, cats and also chickens, is caused by an organism of considerable pathogenicity, and may occur in epidemic form in laboratory animals. Intraperitoneal inoculations in guinea-pigs are fatal in a few days. Spontaneous infection takes place through the intestinal tract, and the regional organs show the principal changes. The liver and spleen contain many nodules which may be as large as a hazelnut, and which are frequently caseated in the center. The organism is called *Bacillus pseudotuberculosis rodentium* or *Streptobacillus pseudotuberculosis dor.*

The disease in mice is caused by a diphtheria-like organism called *Bacillus pseudotuberculosis murium* and is pathogenic especially for the gray mouse.

**Sheep.**

A similar infection in sheep is of more importance and occurs with some frequency. It is called pseudotuberculosis ovis, and the bacillus has a corresponding name. The organism is supposed to gain entrance through wounds in the feet and legs, following which the adjacent lymph glands become involved, and the infection may be transferred to the lungs and other organs through the lymphatic circulation. The lesions are nodular, of varying size, usually surrounded by a fibrous capsule, and are either semipurulent or undergo early caseation. They may be found in all the visceral organs.

An organism resembling that cultivated from the sheep has occasionally been found in nodular conditions in cattle.

The leprosy bacillus and the bacillus of Lustgarten, organisms which resemble the tubercle bacillus, will be considered later.

---

**Falling of Hair After Erysipelas.**—After cutting the hair short, Shoemaker uses the galvanic alternated with the faradic current every day or two, and singes the hair ends every two or three weeks. He also applies equal parts of oil of ergot and fluid mercury oleate.—*Denver Med. Times.*

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

103 DEARBORN AVENUE .... CHICAGO, ILL.

Cable Address ... "Medic, Chicago"

Subscription price .... Five dollars per annum in advance

SATURDAY, OCT. 21, 1905.

## THE NATURE OF PUERPERAL ECLAMPSIA.

Since Jürgens in 1884 described the peculiar changes in the liver in puerperal eclampsia, a large number of carefully studied cases has accumulated, so that it may be said that the pathologic anatomy of the disease now is fairly well understood. Perhaps the most active observer in this field has been Schmorl in Dresden, who has studied no less than 73 cases.

Harbitz, who recently reviewed all this work, points out that the most important, essential, anatomic changes in eclampsia concern the blood, in which there is more or less laking of the corpuscles and coagulation with the formation of thrombi and emboli; associated with and partly, at least, dependent on these alterations are hemorrhages, infarctions and necroses. The liver of eclampsia, with the congestion, infarctions and degenerations, presents a picture that is hardly ever seen in any other diseased condition. It is important to note that acute or chronic nephritis, as a rule, is absent; parenchymatous and fatty changes predominate in the kidneys, which are large, soft and pale yellowish in color. The central nervous system commonly shows hemorrhagic infiltrations, usually microscopic, into the membranes as well as into the nerve substance. Inflammations are not unusual in eclampsia, particularly in the lungs, but these processes are now regarded as secondary and accidental rather than essential. The embolism of parenchymatous and other cells, especially placental, has attracted much notice.

This incomplete summary of the morphologic changes in eclampsia serves to outline the only basis as yet available for deductions as to the real nature of the pathogenesis of the disease.

Many of the older theories have been abandoned definitely, e. g., the infectious, because bacteriologic studies have not given uniform positive results, and the mechanical, which traced the eclampsia to ureteral obstruction, because the autopsies have failed to show any such obstruction. It is also clear that eclampsia can not be identified with uremia; for uremia may occur without the changes characteristic of eclampsia, and in eclampsia the renal changes are not constant and often not at all well marked. These theories all traced eclampsia to morbid conditions in the mother.

We have also a group of theories that conceive eclampsia as the outcome of an autointoxication dependent on pregnancy. Broadly speaking, this theory at present enjoys widest support, and it must be said that it is quite in harmony with the anatomic changes which are easily explainable as the result of the action of some toxic substance or substances of the nature perhaps of a cytolysin. The origin of the supposed toxic bodies has been referred to disturbances in the metabolism of the mother, and eclampsia regarded as analogous with other conditions peculiar to pregnancy, such as vomiting, chorea and certain psychic conditions. The various anatomic changes in pregnancy (pigmentary abnormalities, the formation of osteophytes, etc.) have been put in the same category so far as the cause is concerned. The poisonous substances have been supposed to be derivatives of protein decomposition, but as yet no one has succeeded in actually demonstrating the presence of any such substances in the blood or urine.

Other investigators trace the eclamptic intoxication to the fetus, and regard it as due to the absorption by the mother of fetal metabolic products. At present the fetal theory of eclampsia has many supporters, especially among clinicians. The theory is supported by the facts that eclampsia most frequently occurs in primiparæ and almost always toward the end of pregnancy, as well as by the favorable influence that birth exerts on the disease.

According to a third theory, the intoxication is placental in origin. This theory was advanced by Schmorl, who claimed that eclampsia is due to coagulative substances produced in the placenta. This theory receives some support from the presence of placental cells and chorionic villi in the blood of eclamptics (but these are present also to some extent in the blood in pregnancy uncomplicated by eclampsia), and by the multiple thromboses and embolism that constitute such a prominent feature in the pathologic anatomy of eclampsia. This theory is now being subjected to experimental testing, but as yet it is too early to formulate any definite conclusion as to its stability. It is interesting to note, however, that the placental theory of eclampsia seems to point the way to rational therapy.

## THE MORBID ANATOMY OF ASTHENIC BULBAR PARALYSIS.

Under the designation of asthenic bulbar paralysis or myasthenia gravis pseudoparalytica has been described a condition characterized by weakness and undue readiness of fatigue in certain voluntary muscles, particularly those controlled by the bulbar nerves. The electric irritability of the affected muscles also is quickly exhausted. Sensibility, nutrition and reflex activity remain unaffected. In fatal cases, variable and inconstant changes have been found in the central and peripheral nervous systems and in the absence of definite knowledge the disorder has been considered of toxic origin. More recently, however, hyperplastic and neoplastic alterations have been described in the thymus gland in conjunction with deposits of lymphoid cells in the skeletal muscles.

At a recent meeting of the Pathological Society of London, Dr. E. Farquhar Buzzard[1] reported the results of postmortem examination in five cases of asthenic bulbar palsy, with a demonstration of specimens illustrative of the morbid anatomy. In three of the cases no marked changes were apparent to the naked eye. In one case the thymus gland was enlarged, weighing 41 grams and presenting microscopically the appearance of simple hypertrophy. In another case the anterior mediastinum was occupied by a large mass in the position of the thymus gland. The upper part of the mass resembled a new growth, while the lower part consisted of a multilocular cyst. Sections of the former exhibited strands of connective tissue, between which were large masses of round cells and few definite concentric corpuscles. The wall of the cystic portion contained besides occasional Hassall bodies. Nothing abnormal was discovered in the remains of the thymus gland from the other three cases. The central and peripheral nervous systems were carefully examined in all the cases, but no constant or important changes were detected. In all, however, small foci of cells resembling lymphocytes were found scattered irregularly between the cells of the viscera and in a number of muscles, with at times a small empty capillary vessel lined by a single layer of endothelium in close proximity. The appearances were suggestive of the escape of lymphocytes from the vessel and the term "lymphorrhage" is employed to describe the condition. In some instances gland cells adjacent to the cellular deposits had undergone degeneration or destruction. Some of the muscular fibers in the affected muscles were swollen and rounded, hyaline and granular in appearance and stained feebly.

Whether any significance is to be attached to the changes in the thymus gland at times observed in connection with asthenic bulbar paralysis can not as yet be determined. Comparable alterations have been found also in connection with another disorder of the muscles, namely, progressive muscular dystrophy. In cases in which they are not apparent, it is possible that functional disturbance may merely be unattended with structural alteration. Further, it may be that the changes described in the muscles may be secondary to the abnormalities on the part of the thymus gland. We have here at least a basis for more extended observation.

## ARE FUSIFORM BACILLI AND THE ASSOCIATED SPIRILLA TRYPANOSOMES?

Considerable interest has arisen lately over the relation of various inflammatory and necrotic processes and fusiform bacilli, associated, as a rule, with long spirilla. Many articles have appeared on this subject in foreign literature, but it is only within the last three years that cases have been reported in America. The organisms have been found, usually together, in ulceromembranous angina (Vincent's) and stomatitis, pyorrhea alveolaris, noma, hospital gangrene, appendicitis, gangrenous ulcers of the penis, bronchiectasis, periostitis, abscess of the leg and cerebral abscess. Although it has not been absolutely proved that these organisms are the exciting agents in these pathologic lesions, it seems probable that they are. The bacilli have been isolated recently in pure culture. The spirilla have been cultivated, but only in mixed cultures. By further study of these organisms their relation to these various lesions may be settled.

Wright[1] has advanced the theory that these organisms are a stage in the life history of a tryanosome. He considers that the fusiform bacillus is not a bacillus, on account of its length. He points out that its vacuolation, its staining action with Leishman (blue with red chromatin bodies), its eel-like, undulatory movement, are highly suggestive of a protozoic origin, in spite of the absence of flagella and an undulatory membrane. He mentions that the placques found in the chronic conditions of the mouth, in which the bacilli are found, are suggestive of the placques which are a characteristic feature in dourine, a form of tryanosomic invasion in horses. He also considers the anemia of pyorrhea alveolaris indicative of a blood infection.

Mackie[2] has recently brought forth some evidence to prove this tryanosomic theory. He considers that the spirilla, fusiform bacilli, sickle-shaped bodies and ribbon-like bodies are all different stages of the same parasite. In carrying out some observations on changes undergone in tryanosomes under unfavorable conditions, he noticed the undulatory membrane and flagella disappear, the body of the animal becoming longer, thinner and more ribbon-shaped and the comma forms seeming to become quiescent. The protoplasm was seen to become granular. He says that the resemblance was very similar to forms seen in the pus of pyorrhea alveolaris.

This theory is of great interest, but further investigation along this line will be necessary before any conclusions can be drawn. It is probable that by continued study of cultures of the fusiform bacilli and spirilla, their bacillary or protozoic nature will be determined.

1. Lancet, May 27, 1905, p. 1421.

## BRUTALITY OF FOOTBALL.

One of the most interesting news items of the past week was the announcement that President Roosevelt had succeeded in effecting an arrangement between the football captains and coaches of the more important eastern universities looking toward the elimination of brutality from the game. It is a rather striking coincidence that immediately after succeeding in bringing about peace between the combatants in the most serious and bloody war of modern times, our strenuous chief executive should next turn his attention to an attempt, at least, to do away with the brutality and fatalities which have marked the history of an American sport

1. Lancet, July 9, 1904, p. 73.
2. Lancet, July 8, 1905, p. 110.

for the last twenty years. We say an attempt advisedly, because the president of one of the most important universities in the East said in an apparently hopeless sort of way, when he heard of President Roosevelt's intervention, that he wished him success. He confessed to having tried himself and failed. It will indeed be a reflection on our American civilization if, after conciliating Russia and Japan, President Roosevelt fails to prevent further "killings" in football.

It is not much extenuation of the record of fatalities and of injuries that are more than death to say that they have occurred as a rule in minor college teams and not among the hardened athletes of the great universities. It is the great universities of the land that are expected to set an example in every way to the minor educational institutions of the country. In their hands has been the modification of the rules in such ways as to eliminate all possibility of brutality taking the place of sport. It is idle to say that it is impossible to do away with brutality.

The recent authoritative announcement that any Army or Naval cadet who, during the games played by the respective academies, may be declared by the umpire to have been deliberately brutal, will be dismissed from the service, represents the right way to treat this subject. Of course, any player who does a brutal act to win a game, no matter how great the provocation, is guilty of conduct unbecoming an officer and a gentleman. To cashier him from the service of the United States is the only right thing to do. This same regulation should be in effect at the great universities. Any football player who is deliberately brutal, that is, who performs an act which is meant to injure a player on the other side in order to put him out of the game and so weaken his side, should be disbarred from playing, not alone from that game, but from any other game. Although it is hopeless to look for any change in the rules during the present year, now is the time to make changes for next season. The play can be made more open by modifications in the rules, and that this has not been done is due to the fact that the committee has apparently been afraid of making the game uninteresting by radical changes.

We wish President Roosevelt as distinguished success in this last life-saving attempt as in his previous brilliant achievement, and we can assure him that the medical profession of the country will be with him in the enterprise.

## THE PUBLICITY OF HEALTH RECORDS.

There is much that might be said that is good of American progress in hygienic matters, but the criticisms in Dr. Fulton's address, published in this issue, are certainly called for. We in this country have never been strong in the matter of vital statistics; over a large portion of our territory the attempts at their collection are almost farcical and, even where they are at their best, there is, as he points out, much room for reform. It is the second point of his criticism, however, that most calls for our attention here. The disreputable, and, we might say, criminal use of the health records for commercial purposes, as he shows, is appalling, and strongly suggests that even worse remains behind. The possibilities of blackmailing from a free access of everyone to these records are very apparent. Moreover, as the tendency to increase the number of notifiable diseases extends, and there is good reason for its doing so, the evil possibilities are greatly enhanced. There may be some excuse for allowing insurance companies access to such data, though we do not see that they have any special rights in the matter, but why nostrum venders, quacks, and the like, should be allowed to utilize them is beyond reasonable comprehension. Moreover, if these things are to be so, and the condition is generally understood, notification laws must necessarily fail. There is a striking inconsistency in a state whose legislation puts rigid restrictions around matters of medical secrecy and privilege and yet allows its mortality and health records to be at the command of everyone, or at least any one who can obtain the political favor of the privilege of their consultation. Of course, such records should be available to the proper parties, but this should be under such restrictions as would prevent any violation of their strictly confidential character. At present it appears, from Fulton's researches on the matter, that they are utilized largely for the profit of gross commercialism and political grafters. There is a good opportunity here for a strike for reform.

## DEPORTING NON-RESIDENT DEPENDENTS.

A considerable movement of dependent insane may be looked for in various states owing to the more or less far-reaching results of the operation of a new law in New York. The latter state is investigating the records and is sending away insane persons whose legal residence is in other states, which, therefore, should bear the expense of their care. Something of a sensation was caused in one state on the receipt of several such patients, and it has caused the authorities of that state to prepare to make a similar examination of records and a clearing of their own asylums. In certain states the dependent insane for whose care those states are not legally liable require the expenditure of thousands of dollars, and taxpayers have a right to object. We trust that the investigations will be conducted with great care and all unnecessary excitement of patients avoided. Sympathetic, tactful dealings will prevent the harm that might easily be done.

## MONEY AND MICROBES.

It is said that the public has been so far educated as to the dangers of microbic infection that the redemption bureau of the Treasury Department is overworked by the turning in of dirty currency and the demand for fresh bills. Perhaps the campaign for the Post check currency, which has disseminated so many warnings about dirty money, is in part responsible for this interest on the part of the public. We welcome it as we shall welcome the check currency—when the express companies' lobby is overthrown.

## MEDICAL PESSIMISM.

While man is mortal the practice of medicine will always be in one sense of the word a losing game. That fact, however, does not justify a pessimistic estimate of its usefulness and of its progress such as have recently been made by one or two more or less prominent foreign writers on the subject. The public generally has a sort of notion that diseases are treated by specific remedies and this is the basis of their faith in the prevalent quackery of all times. The fact that we do not have specifics for every disease is no justification for the statement that we can not intervene successfully in any disease, nor for the recent utterance of an English physician that we "can practically do nothing to prevent death from a virulent bacterial invasion or to bring about a cure." Every successful practitioner can honestly contradict this from his own experience. While the thoughtful and conscientious educated physician has no delusions as to his limitations, he does not, on the other hand, have any reason to feel that he is a humbug profiting by the delusions of others. The usefulness of the physician consists not merely in warding off death when actual severe illness has occurred—and this he can do in many cases—but also in shortening the non-fatal ailments and in mitigating the chronic and hopeless ones. If we consider preventive medicine alone the case is still better. There is hardly an epidemic disease dreaded in the past that has a tithe of its old terrors to the educated physician or sanitarian of to-day. The problems of disease are being more successfully studied at the present time than at any period in the past, not only by the laboratory and hospital workers, but more than ever before by those engaged in general and special practice. That much of this work is not directly fruitful need not be denied, but it is only by working over the great mass of ore that the real gold is extracted, and there has been no work so beneficial and promising, taking it as a whole, as that which has been done in the last twenty years and is still being continued. It is well to know our deficiencies, and confession is said to be good for the soul, but pessimism in medicine, like pessimism elsewhere, is morbid and not conducive to the good of the individual, the physician or the world.

## BIRTH INSURANCE.

In a number of European countries maternity insurance is a long-established fact. Italy has recently provided for government birth insurance. The recent unfavorable opinion of the Minnesota insurance commissioner is therefore of present interest. He ruled that "maternity does not present the characteristics of a thing which may properly be insured against," and refused the American Mothers' Birth Insurance Association permission to do business in the state. The *Chronicle* (insurance paper) thinks that this decision is not well founded in reason. Of course, there is no financial loss in maternity, but there is necessary and immediate expense to be met, and this is a proper subject for insurance. Maternity in a sense is voluntary, but only in part, and so, to at least an equal degree, are death, sickness, casualty and fire, all of which are recognized as insurable events.

## CENTENNIAL CELEBRATION OF A UNITED PROFESSION IN NEW YORK.

As will be noted in our News department, the New York State Medical Association, at its annual meeting this week, again endorsed the report of the committee on amalgamation with the Medical Society of the State of New York. As will be remembered, a year ago the report of the committee was adopted but it was afterward discovered that certain legal formalities had to be gone through with before the New York State Medical Association could give up its existence and merge into the society. The legal difficulties involved notifying every member of the association and giving him the right to vote on the proposition. The result, judging from a telegram received as we go to press, shows that the vote in favor of amalgamation was almost unanimous. The other legal formalities, as we understand it, will necessitate but little time, and it is now hoped that the next annual meeting of the Medical Society of the State of New York, to be held in Albany next January—which will be its hundredth meeting—will be a grand centennial celebration of a united profession of the Empire State. The congratulations of the physicians of the entire country are extended, we are sure, to the members of the association and of the society who have worked so diligently to bring about this union.

# *Medical News*

### ALABAMA.

**Physician Fined.**—Dr. M. D. Welborn, Ezell Station, near Pratt City, who was arrested several days ago on the charge of selling cocain, was fined $100 and costs October 3.

**Medical Colleges Opened.**—The Birmingham Medical College opened for its annual session October 3. Addresses were made by Drs. Russell M. W. Cunningham, Ensley; Dr. Edward H. Sholl, Dr. John C. Le Grande and others.——The medical department of the University of Alabama, Mobile, opened October 5.

**Personal.**—Dr. William T. Berry has been elected professor of orthopedic surgery in the Birmingham Medical College, a chair established this year.——Dr. Shirley Bragg, Montgomery, has been made president of the board of convict inspectors, and Dr. Nathaniel G. Clark, Ensley, physician inspector of convicts of the state.

**Alumni Organized.**—The Alumni Association of Birmingham Medical College met for organization October 3 and elected the following officers: President, Dr. Joseph H. Edwards, Wylam; vice-presidents, Drs. Ira C. Skinner, Selma, and Zachary B. Chamblee, North Birmingham, and secretary and treasurer, Dr. J. F. Hogan, Birmingham.

**Winter Hospital Staff.**—The official staff of the City Hospital of Mobile for the winter months announces as follows: Medicine—Drs. Henry A. Moody and Charles A. Mohr; surgery—Drs. Rhett Goode, William R. Jackson, Paul J. M. Acker and Perry J. Howard; obstetrics—Dr. Tucker H. Frazier; ophthalmology and laryngology—Drs. William H. Sanders and Ruffin A. Wright; neurology—Dr. Eugene D. Bondurant; gynecology—Dr. J. Buckner Killebrew, and resident physician, Dr. Ernest S. Feagin.

### CALIFORNIA.

**Denied Use of Mails.**—The Vacuum Medicine Company, San Francisco, has been denied the use of the mails by the postoffice department.

**Sanatorium to Be Enlarged.**—A new building is to be erected for the Agnew Sanatorium, San Diego, four stories in height, to accommodate about 80 patients.

**Clinic Opened.**—A free medical and surgical clinic was opened at the Sisters' Hospital, Los Angeles, October 2, with Drs. Edward T. Dillon, Ernest A. Bryant and Joseph M. King in charge.

**College Opens.**—The opening exercises of the Medical College of the University of Southern California, Los Angeles, were held October 5. Dr. Lyman B. Stookey has been added to the faculty as professor of physiology and physiologic chemistry.

**Personal.**—Dr. H. Miller Robertson, Arlington, has returned from Europe.——Dr. James H. Glass has returned to his home in Paso Robles after an absence of about two years.——Dr. Walter S. Thorne and family, San Francisco, have returned from Europe.

**Medical Library Site Donated.**—Dr. Walter Jarvis Barlow has donated the site for a medical library building to be erected opposite the Medical College of the University of Southern California, Los Angeles. The estimated cost of the building is $25,000.

**Hospital Cornerstone Laid.**—The cornerstone of the new German Hospital, San Francisco, was laid October 8 with elaborate ceremony. The new hospital, which adjoins the present structure, will be of steel, fireproof construction and will cost about $400,000.

**New Hospital Required.**—The Sequoia Hospital, Eureka, erected only about two years ago, has been found to be inadequate to the needs of the locality. A site has been purchased for $15,000, on which a hospital to cost from $60,000 to $75,000 will be erected.

**Farmers Victimized.**—A number of farmers living in the vicinity of Merced were recently made the victims of two men traveling under the guise of doctors, who offered to make examinations free of charge, and on doing so were appalled to find the patients in serious condition and requiring immediate care for which an advance fee was required. After receiving the fee the "doctors" did not return.

## COLORADO.

**Personal.**—Dr. Fleming H. King, Boulder, was severely burned in an attempt to extinguish a fire in his office October 6.

**Health of Colorado Springs.**—During August 29 deaths were reported, equivalent to an annual death rate of 11.60 per 1,000. Of the 29 deaths 15 were due to tuberculosis.

**Colorado State Medical Society.**—The thirty-fifth annual meeting of this society was held in Colorado Springs, October 3-5. Dr. Frank Finney, La Junta, presided. The entertainments provided for the visiting members included a banquet October 3 for the members, a theater party for their ladies; on October 4 a smoker and vaudeville for both ladies and gentlemen, and a tea on the same evening for the ladies, given by Dr. Josephine L. Peavey. The papers presented were of unusually high grade. In the president's address he recommended the organization of a state propaganda for the consideration of tuberculosis that the people might be educated and the spread of the disease thereby prevented. The following officers were elected: President, Dr. Horace G. Wetherill, Denver; vice-presidents, Drs. E. T. Boyd, Leadville; Perry Jaffa, Trinidad, and Charles A. Ringle, Greeley; secretary, Dr. Melville Black, Denver (re-elected); treasurer, Dr. S. Edwin Solly, Colorado Springs; publication committee, Drs. Edward Jackson, J. M. Blaine and Josiah N. Hall, Denver; councilors, Drs. E. T. Boyd, Leadville, and Frank Finney, La Junta; delegate to American Medical Association, Dr. Hubert Work, Pueblo, and alternate, Dr. Heman R. Bull, Grand Junction. The session of 1906 will be held in Denver.

## DELAWARE.

**Donation Day.**—October 5 was donation day for the Delaware Hospital, Wilmington, when donations of all kinds were received and the institution was kept open all day for inspection.

**State Hospital Overcrowded.**—At the meeting of the trustees of the Delaware State Hospital, Farnhurst, the report of the superintendent showed that there were 379 inmates, the largest number in the history of the institution. He stated that the institution was overcrowded and asked that the legislature be petitioned to enlarge the building.

**Examiners Nominated.**—The Delaware State Medical Society, at its annual meeting, presented the following names to the governor, from which two members of the state board of examiners are to be selected: Drs. George W. Marshall, Milford; Ezekiel W. Cooper, Camden; Francis L. Springer, Newport; L. August H. Bishop, Dover; Robert B. Hopkins, Milton; L. C. Carrow and Jacob C. Knowles, Seaford, and James A. Draper, Ralph P. Stubbs and Henry W. Briggs, Wilmington.

**State Society Meeting.**—The Delaware State Medical Society held its one hundred and sixteenth annual meeting at the Delaware Hospital, Wilmington, October 10, the president, Dr. Alexander I. Lowber, in the chair. The address of welcome was made by William S. Ellis and the response by Dr. Willard Springer, Wilmington. In his annual address the president dwelt on the ravages of tuberculosis and the necessity of the establishment of a state sanatorium. The House of Delegates met for the first time in the history of the society. It is composed of ten members, six from New Castle County, two from Kent County and two from Sussex County. The following officers were elected: President, Dr. John Palmer, Jr., Wilmington; vice-presidents, Drs. G. Frank Jones, Georgetown, and Frank Verdin, Kenton; secretary, Dr. George W. K. Forrest, Wilmington; treasurer, Dr. William C. Pierce, Wilmington; delegate to the American Medical Association, Dr. Hiram R. Burton, Lewes, and Dr. Frank Belville, Delaware City, alternate; and councilors, Drs. Peter W. Tomlinson, Wilmington; James H. Wilson, Dover, and James Brysshaw, Sussex.

## DISTRICT OF COLUMBIA.

**Physician Fined.**—Anthony Mandis, who advertised that he had medicine for the cure of epilepsy and was charged with being an unlicensed physician, was fined $50 in the Washington police court September 29.

**Georgetown University Hospital.**—The reports from the committee in charge of the lawn fete for the benefit of the Georgetown University Hospital show that about $1,500 will be realized. The hospital is in a flourishing condition and is doing excellent work.

**Medical and Surgical Society.**—The Medical and Surgical Society of the District of Columbia held its eighteenth annual meeting October 6 at the residence of the president, Dr. Presley C. Hunt, who in his address, reviewed the work of the society for the year just closed. Dr. Oscar A. M. McKimmie was elected president.

**Health of the District.**—The report of the health officer for the week ended October 7 shows the total number of deaths to have been 114, of which number 66 were white and 48 colorded; number of births, 133 (white 100, colored 33), and stillbirths 11 (white 7, colored 4). At the close of the week there were under treatment 32 cases of diphtheria, 9 of scarlet fever, 240 of typhoid fever, and 1 of smallpox.

## IDAHO.

**State Officers Elected.**—At the annual meeting of the Idaho State Medical Society, held in Boise, October 6 and 7, Dr. John B. Morris, Lewiston, was elected president; Dr. Erwin W. Kleinman, Shoshone, vice-president, and Dr. Ed. E. Maxey, Boise, secretary and treasurer (re-elected). The society will meet at Lewiston next year.

## ILLINOIS.

**Physician Robbed.**—Dr. Samuel S. Salisbury, Tolono, was robbed of a watch by two holdup men October 1. Fortunately, the robbers failed to find his purse.

**"Cross-eye" Doctor Levants.**—"Dr." C. A. Lambert, who has advertised wonderful cures for cross-eyes, etc., in Coal City, is said to have left Morris suddenly, leaving unpaid accounts behind him.

**The Oak Park Hospital Trouble.**—The latest developments in the Oak Park Hospital Association proceedings are the withdrawal by Dr. J. W. Tope of his offer to purchase the assets of the association, the defeat of a resolution to abandon the association, and the unanimous adoption of a substitute amendment to consider the question on "hospital or no hospital." The association, therefore, is again facing the financial difficulties which have so long beset it.

**Personal.**—Dr. and Mrs. Charles W. Hall, Kewanee, have returned from a visit to Colorado.——Dr. Peter J. Reynolds, Dwight, was thrown from his buggy September 28, breaking his leg.——Dr. Josiah T. Kretsinger, Leaf River, has returned from a trip to the Pacific Coast.——Dr. Alpheus A. Bondurant, Cairo, who has been seriously ill, is reported to be convalescent.——Dr. Joseph Sheurich, Philo, was taken to the Burnham Hospital, Champaign, October 3, suffering from a bullet wound.——Dr. Albert C. Johnson, Sidell, is seriously ill at the home of his parents, near Horace.

### Chicago.

**Personal.**—Dr. Plumer M. Woodworth has been appointed a trustee of the Illinois Northern Hospital for the Insane, Elgin.

**Medical Student Dies.**—Wesley C. Lowther, a student at the Northwestern University Medical College from West Virginia, was found dead in his bed October 8 from asphyxiation. The death is believed to be accidental.

**Increases Appropriation.**—The finance committee of the City Council has voted an additional appropriation of $8,550 for the Health Department, which, as the lay press announces, "will be used for the following employes: One stenographer, six plumbing inspectors, two clerks, six meat and food inspectors, four horses and one buggy."

**The City's Deaths.**—For the week ended October 14 the mortality of the city was 477, 5 more than for the previous week and 53 more than for the corresponding week of 1904. This is equivalent to an annual death rate of 12.4. The principal causes of death were: Acute intestinal diseases, 69; consumption, 53; violence and suicide, 47; heart diseases and pneumonia, each 38; Bright's disease, 28; cancer, 24, and nervous diseases, 21.

**College Becomes Integral Part of University.**—The Northwestern University Medical School (Chicago Medical College), which previously has held only an affiliated connection with the Northwestern University, became an integral part of that institution by a vote of the board of trustees at its quarterly meeting, held October 10. The medical school turns over property to the university valued at $353,000, which includes the college building at Dearborn and Twenty-fourth Streets.

**New Policlinic Hospital.**—The Chicago Policlinic has given to the Northern Trust Company a trust deed to its property to secure a bond issue of $300,000 maturing in 1935 and bearing interest at 4 per cent. The property in the deed includes the new site of the hospital at Oak Street and La Salle Avenue and the present hospital on Chicago Avenue. The new hospital will be six stories in height with a frontage of 200 feet, of fireproof, steel construction, and will accommodate 150 patients.

## INDIANA.

**Disease Closes Schools.**—The public schools of Petersburg were closed October 2 because of an epidemic of diphtheria.——The schools of Alvord have also been closed for the same reason.

**Accident and Illness.**—Dr. Calvin Carter, Brookville, was struck in the face by the head of a sledge-hammer October 5, breaking his nose and causing other injuries.——Dr. William Dederick, Warsaw, is seriously ill.

**College Transformed into Hospital.**—The Fort Wayne district of the Northern Indiana Methodist Conference has decided to purchase the Fort Wayne Medical College building and convert it into a deaconess' hospital.

**Found Guilty a Second Time.**—William Kluge, Indianapolis, who was fined $50 a few months ago for practicing medicine without a license, was found guilty October 2 of a similar offense and was fined $25 and costs.

**Convicted of Fraud.**—Dr. Charles Morehouse, who was convicted of conspiring to defraud Mrs. Martha McDonald of South Bend, was found guilty of conspiracy in committing a felony and sentenced to the Michigan City penitentiary for an indeterminate period of not less than two nor more than fourteen years, and to pay a fine of $25.

**Continued Merger.**—On October 9 the Fort Wayne Medical College was merged into and became a part of the medical department of Purdue University. Under the new arrangement five members of the faculty will be continued in the faculty of the medical department, and Dr. Christian B. Stemen has been made vice-dean of the faculty.

**Personal.**—Dr. John N. Hurty, Indianapolis, secretary of the State Board of Health, who has been seriously ill with inflammatory rheumatism, has gone to Atlantic City in the hope of regaining his health.——Dr. John S. Reagan has been appointed physician to the Indiana Boys' School, Plainfield, vice Dr. Amos Carter.——Dr. Edwin M. Trook, Marion, has been appointed surgeon for the Kokomo, Marion & Western traction line.

## KANSAS.

**South Kansas Medical Society.**—This society held its annual meeting at Wichita October 19-20.

**Diphtheria Closes Schools.**—The State Normal School and public schools of Hays City have been closed on account of the prevalence of diphtheria.

**New Hospital.**—The new hospital recently erected at Larned by Drs. Charles H. Ewing, William C. MacCurdy and Arthur W. H. Seiple, was opened to the public October 9.

**For Sanitary Railway Cars.**—The State Board of Health has authorized its secretary, Dr. S. Jay Crumbine, to cooperate with other states west of the Mississippi River in securing uniform legislation for railroad car sanitation.

**Hospital Directors Appointed.**—Drs. Josephus P. Stewart, Benjamin F. Morgan, and Messrs. C. C. Stillman, Olsen and Alquist, have been appointed directors of the Clay Center Hospital, and the first-named was elected president of the board.

**Personal.**—Dr Samuel W. Spitler, Wellington, has returned from New York.——Dr. W. R. Palmer, Kansas City, has been appointed assistant in the clinical department of the German Hospital.——Dr. Homer F. Parr, Wellington, has located in Carlsbad, N. M.

**August Diseases.**—During the month of August 87 cases of tuberculosis and 44 deaths were reported in Kansas; 264 cases of typhoid fever, with 33 deaths; 65 cases of diphtheria, with 9 deaths; 61 cases of scarlet fever, with 1 death; 12 cases of measles, with 1 death; and 99 cases of smallpox, with 1 death.

**A Good Meeting.**—The meeting of Sumner County Medical Society, Wellington, September 15, was of exceptional interest, 24 of the 32 members being present. Dr Samuel W. Spitler, Wellington, presented a report of the American Medical Association meeting. Dr. Oliver J. Furst, Peabody, councilor of the district, was present, and Dr. Hoxie outlined the aims of the Kansas University for higher medical education.

## KENTUCKY.

**Diphtheria Closes Schools.**—The public schools of Eminence, LaFayette and Hickman have been closed on account of the prevalence of diphtheria.

**Appeal for Hospital.**—The trustees of the Good Samaritan Hospital, Lexington, have issued an appeal for $50,000 to erect a new building for the hospital, which is urgently required.

**Will Serve Without Pay.**—The names of twelve Frankfort physicians have been presented to the prison commissioners, each of whom agrees to serve as prison physician for a month without pay, or until the expiration of the term of office of the late Dr. Hugh L. Tobin, provided the salary is given to the widow of the deceased physician.

**State Medical Examiner Appointed.**—Prof. W. P. St. Clair, head of the department of Latin in the Male High School, Louisville, has been appointed state medical examiner by the State Board of Health under the law passed in 1904, requiring that those who entered the medical schools of Kentucky shall be required to have a preliminary education corresponding to that furnished by a first-class high school.

**Speers Hospital Report.**—The annual report of the Speers Memorial Hospital, Dayton, shows that during the fiscal year just ended 480 patients were cared for and 165 surgical operations were performed; 10 deaths occurred, but 6 of the patients were moribund when operated on. The following staff has been appointed: Gynecology, Dr. Magnus A. Tate, Covington; surgery, Dr. John L. Pythian, Newport; medicine, Dr. J. W. Youtsey, Newport; neurology, Dr. Willis W. Ranshaw, Covington; dermatology, Dr. William E. Truesdell, Newport; pediatrics, Dr. Joseph J. Bock, Newport; obstetrics, Dr. William W. Tarvin, Covington; and pathology, Dr. Claude Youtsey, Newport.

**Personal.**—Dr. Charles B. Schoolfield, Dayton, is critically ill.——Dr. John D. Hamilton, Louisville, who has been seriously ill for a long time, is reported improving.——Dr. Joseph B. Marvin and family, Louisville, sailed from London on the *Minnehaha* for New York, September 23.——Dr. Clyde Vermillion and family, Russell, have moved to Idaho on account of the illness of the former.——The Kentucky School of Medicine has elected Dr. Granville S. Hanes clinical professor of rectal diseases.——Dr. Emilius M. McKee, Lexington, has been chosen superintendent of St. Vincent Hospital, St. Louis.——Dr. Edward L. David, Louisville, who is about to move to Philadelphia, was the guest of honor at a banquet given by the subfaculty of the University of Louisville, October 2.

## LOUISIANA.

**Personal.**—Dr. Felix A. La Rue, New Orleans, visited Emmittsburg, Md., October 6 to celebrate the silver jubilee of his graduation at Mt. St. Mary's College, in that town, in 1880.

**School of Tropical Medicine Proposed.**—The president of Tulane University announces the proposal to found a school of tropical medicine in connection with that institution. This, he thinks, would attract students not only from the South, but from Cuba, Mexico and Central America.

**Physician and Town Marshal Fight.**—In a desperate encounter between Dr. David B. Garland and town marshal W. J. Thaxton, Bernice, on October 3, the latter sustained two bullet wounds and six or eight knife wounds. Dr. Garland was stabbed near the heart and both are expected to die.

## MARYLAND.

**Personal.**—Dr. T. Rowe Price, Glyndon, Baltimore County, has gone to the Pacific coast.——Dr. T. Chalmers Peebles, Lutherville, has moved to Falmouth, Mass.

**Typhoid at Hagerstown.**—About 45 cases of typhoid fever have been reported in Hagerstown since June 1. Examination of the drinking water by the State Board of Health is said to have been negative.

### Baltimore.

**To Buy Portrait.**—A fund is being raised at the college hospital to procure a portrait of Prof. Thomas S. Latimer to be hung in the college library.

**Student Dies.**—Herbert E. Taber, a third-year student in the College of Physicians and Surgeons, Baltimore, died from typhoid fever, October 10, in Providence, R. I.

**Personal.**—Dr. Archibald W. Graham has been appointed assistant resident physician at Bayview Hospital, vice Dr. W. W. Riha, appointed assistant physician to Danvers (Mass.) Hospital for the Insane.

**Staff Changes.**—Dr. G. R. Holden has resigned as resident gynecologist, and Dr. A. M. Little as resident obstetrician at the Johns Hopkins Hospital. Their places have been supplied by Drs. Stephen Rushmore and F. C. Goldsborough, respectively. Dr. Holden will go to Jacksonville, Fla., to practice, and Dr. Little will become superintendent of the maternity connected with McGill University, Montreal, Canada.

## MASSACHUSETTS.

**Physician Fined.**—Dr. Louis H. Clark, Holyoke, was fined $15, September 18, on the charge of violating the speed laws of the town of Leicester.

**Hospital Field Day.**—As the result of the hospital field day for the Milford Hospital, $943.50 was realized and turned over to the treasurer of the institution.

**New Hospital for Cambridge.**—The new Emergency Hospital situated in the heart of the factory district in Cambridge, was opened October 1. Dr. George V. Buehler is in charge.

**Acquitted.**—Dr. Victor Bychower, Boston, charged with performing an illegal operation on Minnie Cohen, was discharged from custody, August 30, as the prosecution failed to sustain its case.

**Offers to Give Laboratory.**—Andrew Carnegie has offered to give Smith College, Northampton, one-half of $125,000 required for a biologic laboratory on condition that friends of the college secure the remainder of the amount.

**Pleads Guilty.**—At the session of the District Court, August 7, at Ware, Dr. J. A. Dorval pleaded guilty to the charge of practicing medicine without a license, and was held to the criminal session of the Superior Court, December 18.

**Physicians Lose Suit.**—Drs. John M. French, Milford, and Arthur M. Rounds, Norton, who sued the United Order of the Golden Star for $1,500, alleged to be due them for services as grand medical examiners, were non-suited October 4.

**Operating Building Presented.**—It is understood that A. C. Houghton will present to the North Adams Hospital an operating building separate from the other hospital structures and equipped in accordance with the demands of modern surgery.

**Sent to Prison.**—Dr. Charles R. Greeley, South Weymouth, charged with a statutory offense, was sentenced to the House of Correction for one year at Dedham, September 23.—— Dr. Ovid M. Paulhaus, Haverhill, charged with committing an illegal operation which caused the death of Mrs. Arthur Goodman, pleaded guilty, and was sentenced to imprisonment for not less than six nor more than six and one-half years in the state prison, September 18.

**Dispensary Report.**—The one hundred and ninth annual meeting of the Boston Dispensary, held October 13, showed a record of its largest year; 101,280 patients were treated at the central and Roxbury offices; 21,858 visits were made at homes by 14 district physicians, each accompanied by a nurse from the Instructive District Nursing Association; 92,063 prescriptions were filled on orders from the medical staff. There are now 18 departments at the central office, and there is great need of more room. For this addition $100,000 is needed, of which $20,874 has been subscribed. The regular work of the institution is maintained by its income, but there is nothing available for enlargement.

**Personal.**—Dr. Charles Harrington, secretary of the State Board of Health, has sailed for Europe. He will present at the International Dairy Conference in Paris, October 16-19, the work which has been done by the board along those lines.——Dr. Charles H. Turner, Holyoke, has returned from England and will locate in Haverhill.——Dr. Louis L. Auger, Worcester, has returned from Europe.——Dr. John O'Shea has been appointed house surgeon at the Boston City Hospital.——Dr. John H. Lindsey, Fall River, has resigned as a member of the staff of the city hospital.——Dr. Edward H. Trowbridge, Worcester, has returned from a trip abroad. ——Dr. Frank W. White, Boston, returned from Europe October 2.

**Charities Get Quarter of a Million.**—By the will of Charles Tidd Baker, late a prominent insurance broker of Boston, $250,000 is devised to charities. Those largely medical are: Convalescents' Home for Children's Hospital, $15,000; Boston Home for Incurables, $10,000; Children's Hospital, Boston, $10,000; Boston Floating Hospital, $10,000; Hospital Cottages for Children, Baldwinsville, $5,000; Boston Lying-in Hospital, $5,000; Free Home for Consumptives, Dorchester, $5,000; St. Luke's Convalescent Home, $5,000; Massachusetts Infant Asylum, $5,000; Willard Hospital, Bedford, $5,000. All of these bequests are to be paid, however, only after the death of the testator's sister, who is to have the income of his estate during her lifetime.

**County Society Active.**—The Essex South District Medical Society celebrates its centennial year this year, as it was organized in Salem Nov. 4, 1805. The program for the centennial year is unusually interesting, and includes an illustrated lecture by Dr. George M. Gould, Philadelphia, on "The Struggle for Fresh Air and Light"; a centennial celebration at which Dr. Holyoke of Holyoke will read a paper on the life of his ancestor, Dr. Edward A. Holyoke, who was the founder and first president of the society, and also first president of the Massachusetts Medical Society. The president of the Massachusetts Medical Society will respond for the parent organization, and historical papers, each covering a period of a quarter of a century, will be presented by members of the society. Among other topics to be presented during the year are: "Tuberculosis; Its Treatment and Prevention," "Pure Foods" and "Facts and Fallacies Concerning Albuminuria."

## MICHIGAN.

**Hospitals Opened.**—The new addition to the Menominee River Hospital was opened October 2. The new building has accommodation for 20 patients and has also a well-equipped operating room.——The Northern Michigan Hospital, Calumet, reopened last week after having been closed for four months.

**Personal.**—Dr. Claudius B. Chapin, Benton Harbor, fractured his wrist October 2 while starting his automobile.——Dr. Charles C. Clancy, Port Huron, was thrown from his bicycle October 5 and sprained his left wrist.——Dr. John E. Clark, Detroit, has been made professor of medical jurisprudence in the Detroit College of Medicine.

**Fraud Order Issued.**—The postoffice department has issued a fraud order in the case of a Michigan concern which is alleged to have swindled numerous persons in Indiana and which was known under the names of the Adrian Medico-Surgical Institution, the Adrian Medical and Surgical Institution, and Dr. Durham's Remedy Company.

**Third Councilor District.**—The society for this district met at the Battle Creek Sanitarium October 18. The use of the operating rooms of the sanitarium was donated to the society for convenience in showing clinical cases. The clinic was held in the morning. In the afternoon the scientific session was held. Dr. David Inglis, Detroit, president of the state society, and Dr. A. P. Biddle, Detroit, secretary, were present. The Battle Creek Sanitarium tendered a vegetarian banquet to the members of the society and guests.

**Mortality of Michigan.**—The total number of deaths for September was 3,050, an increase of 253 over the preceding month. The death rate was 14.6 per 1,000, as compared with 12.9 for August. There were over 400 more deaths during September, 1905, than during September, 1904. There were 804 deaths of infants under 1 year, 257 deaths of children aged 1 to 4 years, and 789 deaths of persons over 65. Important causes of deaths were as follows: Tuberculosis of the lungs, 213; typhoid fever, 68; diphtheria, 22; scarlet fever, 4; measles, 3; whooping cough, 11; pneumonia, 65; diarrhea and enteritis of infants under 2 years, 527; cancer, 146; accidents and violence, 230. There was a slight increase in the mortality from typhoid fever and a very considerable increase in that from diarrhea of infants. There was only one death from smallpox during September and one death from tetanus.

## NEW YORK.

**Horses for Hospital.**—Mrs. Clarence H. Mackay, who presented the Nassau Hospital at Mineola, L. I., with a stable, stable equipment and an ambulance, has added a gift of a valuable team of horses.

**One Board Instead of Many.**—The New York State Medical Association unanimously adopted resolutions advocating the establishment of one state medical examining board instead of three or more, as at present exist.

**Charity Musicale.**—Mrs. Edwin Gould gave this entertainment at Ardsley-on-the-Hudson, on October 6, where $1,000 was realized for the benefit of the Robin's Nest, a summer home for crippled children at Tarrytown, N. Y.

**Buffalo Personals.**—Dr. Edward R. McGuire returned from Europe.——Dr. Herman E. Huyd is at Aspinwall, Lenox, Mass.——Dr. Albert E. Wachnert has recovered from an attack of appendicitis.——Dr. Roswell Park has returned from Europe.

**Wants Coroners Abolished.**—Resolutions announcing the continuation of the coroners' offices, particularly in New York City, and asking for the abolition of the coroners' offices throughout the state were adopted by the New York State Medical Association at its meeting October 16.

**State Association Election.**—The election of officers of the New York State Medical Association resulted as follows: President, Dr. Allen Arthur Jones, Buffalo; vice-president, Dr. H. Ernest Schmidt, White Plains; secretary, Dr. Charles Ira Redfield, Middletown (re-elected), and treasurer, Dr. William G. Le Boutillier, New York City.

**Amalgamation Wins.**—At the meeting of the New York State Medical Association, October 17, Dr. W. R. Townsend moved and Dr. E. Eliot Harris seconded the resolution for amalgamation and for the continuation of the committee on conference with the Medical Society of the State of New York. The vote for amalgamation stood 1,517 to 2, with 295 not voting. The next step is for the committee to petition the court for an order amalgamating the association and the society, and this, it is hoped, will be carried through before January 1. It is confidently believed that the crowning feature of the centennial celebration of the state society may be its amalgamation with the state association and the long-deferred union of the medical profession of the state.

### New York City.

**Passengers Quarantined.**—Three steerage passengers aboard the *Slavonia* were sent to Hoffman's Island for observation. They are suspected of having typhoid fever.

**Ambulance Accident.**—A trolley car bound for Coney Island ran into a Flatbush Hospital ambulance, killing the horse and smashing the ambulance. The ambulance surgeon and the driver escaped injury. This is the ninth ambulance accident in Brooklyn in five months.

**Open Air Sanatorium.**—The State Board of Charities has been asked to approve of the incorporation of the Long Island Open Air Sanatorium of Brooklyn, formed for the purpose of furnishing hygienic treatment for consumptives and to encourage the control of tuberculosis on Long Island.

**Gift to Hospital.**—The sum of $5,000 has been given to the Sydenham Hospital for the purpose of endowing three beds by the sons of M. Guggenheim.——Mrs. Isaac Guggenheim has given $700 for improvements in the maternity ward.——The Lyric Theater has been offered for a benefit performance for this hospital on November 25.

**Contagious Diseases.**—There were reported to the sanitary bureau for the week ended October 7, 381 cases of tuberculosis, with 168 deaths; 198 cases of diphtheria, with 19 deaths; 97 cases of typhoid fever, with 14 deaths; 58 cases of scarlet fever, with 1 death; 52 cases of measles, with 2 deaths, and 12 cases of cerebrospinal meningitis.

**Personal.**—Dr. Harvey W. Wiley, chief of the Bureau of Chemistry of the United States Department of Agriculture, addressed the Medical Association of Greater New York, on the evening of October 9, on the use of chemical preservatives and coloring matters in food products.——Dr. William K. Draper arrived home on the *Kroonland* October 10.——Dr. and Mrs. John A. Robinson sailed on the *Koenigen Luise* October 14.

**Smaller Freshman Class.**—The registration just closing in the Cornell University Medical College shows a decrease over the best of the previous years. The three advanced classes are somewhat larger than usual, but the first-year class, which hitherto has contained an average of about 130 students, this year has less than 120. Medicine at present does not seem as attractive a calling as business, although 85 per cent. of the graduating class last year obtained hospital positions, and the hospital graduate has undoubtedly a better chance of success than others.

**Hospitals for the East Side.**—The State Board of Charities has pending before it applications from five parties who wish to incorporate hospitals to operate on the lower East Side. The board passed a resolution that, while there is apparent need for the extension of suitable hospital facilities in that district, the incorporation of so many would lead to confusion of effort and undesirable results. The proposed incorporators were advised to confer with each other with a view of extending the facilities of the institutions already in existence or of uniting in one hospital corporation.

**Water-Supply Report.**—The special commission on the water supply has reported to the Board of Aldermen. It proposes to tap the Catskill and at a cost of $161,857,000 to build an aqueduct to this city capable of adding 500,000,000 gallons of water to the present daily supply. This would give the city enough water to care for all the increase probable until 1925. The lack of water in Brooklyn during the past summer was almost without precedent in the history of a large American city, and this commission has provided plans for the immediate relief for this locality by tapping some of the numerous underground streams of Long Island for temporary relief until the work of bringing water from the northern part of the state can be completed.

**New City Sanatorium.**—A tuberculosis hospital is being planned which is to be built in the central portion of Staten Island, where the city owns 130 acres of land. This location overlooks the Narrows and the Lower Bay and is the highest point on the Atlantic coast between Portland and the Gulf of Mexico. Dr. John F. Fitzgerald has inspected the tuberculosis sanitariums of New York and New England in order that all the newest ideas may be incorporated. The wards are to be arranged in the form of an arc in order to furnish the maximum sun exposures. The estimated cost of the work when completed is about $2,000,000, and there will be accommodation for about 800 patients. There is no connection between this sanatorium and that undertaken by the Health Department for the treatment of incipient tuberculosis.

## OHIO.

**New Hospital Departments Opened.**—The Toledo Hospital opened a well-equipped *x*-ray room, an isolation hospital and a laboratory last week.

**Red Cross Badges for Toledo Physicians.**—The city clerk of Toledo is now issuing Red Cross badges marked "Toledo Physician," which gives physicians wearing them the right of way on the bridges of Toledo and access within fire and police lines.

**Banquet to Dr. Rosenwasser.**—A banquet was tendered Dr. Marcus Rosenwasser, Cleveland, October 5, on the occasion of his return from a year's study in Europe, by fifty medical men of the city. Dr. Rosenwasser will resume his connection with the College of Physicians and Surgeons as professor of gynecology.

**District Association Meets.**—The Tenth District Medical Association held its annual meeting at London, October 5. The following officers were elected: President, Dr. Albert J. Strain, London; vice-president, Drs. W. Stanley Samson, Lancaster, Jefferson B. Scearce, Chillicothe, and Anson S. Beckwith, London; and secretary and treasurer, Dr. John H. J. Upham, Columbus. The next session of the association will be held in Lancaster.

**Hospital Notes.**—Charity Hospital, Cleveland, has entered on the celebration of its fortieth anniversary. During this time 26,000 cases have been handled, the greater proportion of which have been gratuitious. During the last year 1,700 patients were cared for.——On October 8 the corner stone of the addition to the Good Samaritan Hospital, Zanesville, was laid with elaborate ceremony. The cost of the new building will be about $70,000.

**Medical Staff Organized.**—The board of the Ohio Soldiers' and Sailors' Home, Xenia, has created a consulting and visiting medical staff, which organized October 6 by the election of Dr. Clark M. Galloway, Xenia, as dean, and Dr. A. C. Messenger, Xenia, as secretary. The staff is made up as follows: Dr. Warren C. Hewitt, Xenia, resident physician; Drs. Frederick Forchheimer, Cincinnati, A. C. Messenger, Xenia, and Clark M. Galloway, Xenia, general medicine; Drs. George W. Crile, Cleveland, William J. Gillette, Toledo, L. E. Russell, Cincinnati, Robert C. Rind, Springfield, James F. Baldwin,

Columbus, Samuel S. Wilson, Xenia, Benjamin R. McClelland, Xenia, and Lawrence H. Brundage, Xenia, general and special surgery; Drs. Robert Sattler, Cincinnati, and Pearle K. Madden, Xenia, eye and ear; Dr. Andrew Timberman, Columbus, nose and throat; Dr. William T. Corlett, Cleveland, dermatology; and Dr. Henry C. Houston, Urbana, pediatrics.

**Personal.**—Dr. Minor M. Jacobs, Hamilton, has resigned as a member of the city board of health.——Dr. T. H. Brannan, Canal Dover, was stricken with paralysis October 3.——Dr. Frank Young, Lorain, has been appointed trustee of the State Children's Home, Oberlin.——Dr. Harrie B. Martin, Springfield, has been elected president of the Society of American Physicians of Vienna.——Dr. Alfred P. Scully, Cleveland, has returned from Germany.——Dr. and Mrs. Jerome B. Thomas, Dayton, have returned after five years in the Philippine Islands.——Dr. Herman S. Rhu, Marion, has gone to Texas for the benefit of his health.——Dr. M. E. Mowen has resigned as a member of the East Liverpool Board of Health to accept the position of city physician made vacant by the resignation of Dr. William J. Taylor.——Dr. John Maglott has been elected health officer of Mansfield, vice Dr. Reason S. Boles, deceased.

## PENNSYLVANIA.

**Typhoid Fever.**—Typhoid fever is still prevalent at Manticoke. The total number of cases reported up to October 11 were 371. Dr. Logan of the State Board of Health has been detailed to take charge of the typhoid fever epidemic at Archbald, where 39 cases had been reported up to October 10.

**Fines for Preserved Meat.**—The report of the Dairy and Food Commissioner for the month of September shows that the fines collected from violators of the pure-food laws aggregated $7,000. Almost this entire amount came from the sellers of preserved or adulterated meats. These fines exceed by $4,000 the total for any other month this year.

**Reading Relief Statement.**—The statement of the Philadelphia and Reading Relief Association for August shows an expenditure of $22,238.20, of which $11,300 was paid for deaths and $10,938.20 for disability. The number of deaths was 19, of which 9 were from accidents and 10 from natural causes. One thousand one hundred and thirty-one new cases were reported.

### Philadelphia.

**Vital Statistics for September.**—The report of the Bureau of Vital Statistics for September shows that 1,566 deaths were reported, 2,487 births and 318 marriages.

**Hospital Report.**—The report of the Mt. Sinai Hospital for September shows that 63 patients were admitted to the wards and that 3,893 were treated in the various clinics.

**Large Classes at University.**—The total rgistration to date in the University of Pennsylvania aggregates 3,570. There are 570 students registered in the medical department as compared with 546 for the year of 1904-05.

**Personals.**—Dr. John L. Borsch has returned from a prolonged visit to Europe.——Dr. T. K. Hamilton, an ophthalmologist of Adelaide, South Australia, was the guest of Dr. L. Webster Fox last week.——Dr. and Mrs. J. William White have returned from Europe.

**Bacteriologic Laboratory Report.**—The mortality report of the Bacteriologic Laboratory of the Bureau of Health shows that 456 diphtheria cultures and 400 specimens from typhoid blood were examined; 808 specimens of milk were analyzed and 86 specimens of sputum were examined.

**September Medical Inspection.**—The report of the division of medical inspection for the month of September shows that 5,405 inspections were made excluding schools; 3,747 visits were made to the schools and 675 children were excluded from attendance on account of some illness. The inspectors ordered 407 fumigations, examined 8 patients for special diagnosis, collected 79 cultures for examination, administered 95 injections of antitoxin and performed 1,317 vaccinations.

**Health Report.**—The deaths from all causes for the week ended October 14 aggregated 368. This is a decrease of 36 from the previous week and a decrease of 46 from those reported in the corresponding week of last year. The principal causes of death were: Typhoid fever, 12; consumption, 39; cancer, 22; apoplexy, 18; heart disease, 40; acute respiratory disease, 33; enteritis (under 2 years), 22; appendicitis, 3; Bright's disease, 31; accidents, 15; and marasmus, 11. There were 171 cases of contagious diseases reported, with 12 deaths, as compared with 191 cases and 28 deaths in the previous week, showing a marked decrease. The city has now been entirely free from smallpox for eight months.

## WASHINGTON.

**Hospital Dedicated.**—The new hospital of the Northern Pacific Beneficial Association at Tacoma was formally dedicated August 27. The building complete cost $100,000.

**Typhoid at Penitentiary.**—Typhoid fever is raging in the state penitentiary at Walla Walla, where 50 out of 755 prisoners are in the prison hospital. Before the epidemic appeared Dr. Yancey C. Blalock, the prison physician, repeatedly warned the warden of the danger, but nothing was done.

**Sanatoria to Be Built.**—Plans have been perfected for the erection of a health resort and sanatorium at Spring Beach, north of Seattle, to cost about $300,000.——Dr. F. M. Rossiter, North Yakima, has just completed the erection of a sanatorium in that city, which will be opened to the public this week.

**Personal.**—Dr. and Mrs. Augustus W. Thornton, Ferndale, recently celebrated their fiftieth wedding anniversary.——Fire in the Hutton building, Coulee City, destroyed the office of Dr. N. R. Gregg.——Dr. Landstrom, who was recently operated on for appendicitis at Seattle, is rapidly recovering from the operation.

**Had No License.**—C. Henderson, Lind, who issued a death certificate signing himself as a physician, was fined $50, September 1, for practicing medicine without a license.——"Dr." Mollison, Farmington, who was arrested September 23 on the charge of practicing medicine without a license, pleaded guilty, and was fined $50 and $8 costs.

**Washington State Medical Association.**—The sixteenth annual meeting of this association was held in Tacoma, September 27-29, under the presidency of Dr. James R. Yocum, Tacoma. The program included symposia on arteriosclerosis, the early diagnosis of tuberculosis, the digestive and nutritive disorders of children and infants, the prevention of infectious diseases, the early diagnosis of malignant disease, colic, dyspepsia and indigestion in adults, and organization of the medical profession, with an address by Dr. J. N. McCormack, chairman of the committee on organization of the American Medical Association. The election of officers resulted as follows: Dr. George W. Libby, Spokane, president; Drs. Lemon R. Markley, Bellingham, and Luther M. Sims, Kalama, vice-presidents; Dr. Curtis H. Thompson, Seattle, secretary; Dr. A. DeY. Green, treasurer; Dr. N. Fred Essig, Spokane, delegate to the American Medical Association; and Dr. James R. Yocum, Tacoma, alternate. The judicial committee for the coming year is composed of Drs. Charles G. Brown, Spokane; William C. Cox, Everett; Elmer M. Brown, Tacoma; R. N. Gordon, Seattle; Wilson Johnston, Colfax, and Nathaniel J. Redpath, Olympia. During the discussion of the organization it was announced that the population of the state was 874,310, that there were 967 physicians in the state, but 374 of whom were members of the state association. The next meeting will be held in Spokane.

## WYOMING.

**Personal.**—Dr. Letitia Wiseman, Cheyenne, has become physician of Laramie County, succeeding Dr. William A. Wyman, whose term has expired.

**Doctor Pardoned.**—The State Board of Pardons on October 10, after a careful investigation of the case of Dr. Potts, Buffalo, now serving a term of twenty years for the murder of a man in a saloon at Big Horn, recommended that he be pardoned.

**Robbed and Restored.**—Dr. John H. Conway, Cheyenne, who had an envelope containing $5,000 worth of stocks and securities stolen from his safe September 28, and also $125 in cash, received an envelope the next day containing the non-negotiable stock and securities, but not the cash.

**Sheridan Physicians Threaten Boycott.**—The physicians of Sheridan have forwarded an ultimatum to the governor that unless he confines the work of the present medical director of the state hospital strictly to that institution, they will boycott the hospital and refuse to aid in its operation.

**New State Hospital Overcrowded.**—The new State Hospital at Sheridan, which was completed only four months ago at a cost of about $25,000, is already unable to accommodate the large number of patients who desire to enter the institution. The state auditor will furnish increased accommodation by providing quarters for the nurses in another building.

## GENERAL.

**Tri-State at Memphis.**—The Tri-State Medical Association of Mississippi, Arkansas and Tennessee will hold its twenty-second annual meeting at Memphis, Tenn., in the Hotel Gayoso,

V 4
190

Nov. 21-23, 1905. Further information may be obtained from the secretary, Dr. Richmond McKinney, Memphis, Tenn.

**International Sanitary Conference.**—The second International Sanitary Conference of American Republics was held in Washington, D. C., beginning October 10. Delegates from twelve South American republics, from the Army and Navy and from the United States Health and Marine-Hospital Service were in attendance. Surgeon-General Walter Wyman presided. The address of welcome on behalf of the government was made by Mr. Root, the secretary of state. Mr. Taylor, assistant secretary of the treasury, also welcomed the delegates on behalf of the Public Health and Marine-Hospital Service. The response was made by Mr. Quesada, the Cuban minister. The present quarantine arrangements were criticised and some modifications suggested. It was proposed to translate the U. S. Pharmacopeia to Spanish. This is to be reported on at the next meeting, which will be held in Mexico City in 1907.

**Alvarenga Prize Award.**—The 1905 prize has been awarded to Dr. Chalmers Watson of Edinburgh, Scotland, for his essay, entitled "The Importance of Diet; an Experimental Study from a New Standpoint." This prize is given by the College of Physicians of Philadelphia, and consists, each year, of the income of the bequest of the late Señor Alvarenga, amounting to about $180. The next award will be made July 14, 1906, provided that an essay deemed by the committee of award to be worthy of the prize shall have been offered. Essays intended for competition may be on any subject in medicine, but can not have been published. They must be typewritten, and must be received by the secretary of the college on or before May 1, 1906. Each essay must be sent without signature, but marked with a motto and accompanied by a sealed envelope having on its outside the motto and within the name and address of the author.

**The Health of the Army.**—In his official report for the year ending June 30, 1905, Surgeon-General O'Reilly states that there were 79,586 "admissions to sick report," 406 deaths from all causes, and 1,377 discharges for disability. He states that by far the most important diseases affecting the efficiency of the Army have been venereal, that the control of these diseases lies in the hands of the civil authorities, and that one of the most important steps to that end would be the classing of these with other contagious and reportable diseases. Notwithstanding that a large proportion of the Army was serving in the tropics there was no death or admission to sick report from snakebite. The report states that it is impossible to make any just comparison with the statistics of other countries, as in the United States the admissions include all soldiers who are excused from any part of their military duties, while this is not the case with any other country; that portion of the Army serving outside of the geographical limits of the United States is also included, while this is not the case with any other country except Great Britain. Some countries have a low death rate because their sick are promptly discharged or retired and die out of service instead of on sick report. The very high proportion of alcoholism in the American Army as compared with the British army is partly due to the fact that in the latter service only admissions to hospital are counted. While the British have less than half the American admission rate for dysentery their death rate is practically the same. The figures for measles and mumps compare very unfavorably with other armies with the exception of the French. The comparatively high American death rate from tuberculosis is explained by the fact that in the United States Army tuberculosis patients are sent to a sanitarium and retained in the service for long periods, while in other armies they are discharged. The undue prevalence of typhoid fever is explained by Dr. O'Reilly by its undue prevalence in civil communities where the troops are stationed as a result of the general failure in American municipalities to purify water and sewage.

**Yellow Fever.**—During the past week there has been a still more marked diminution in the number of cases at New Orleans. Further improvement in Louisiana and Mississippi is following the low temperature and frost, which, on October 12, reached to within thirty-five miles of New Orleans. Quarantines are being relaxed. Baton Rouge has opened its doors to the world. All the shotgun quarantines were abandoned on October 15.——Dr. L. Szabary, reported last week as arrested on two charges of neglecting to report cases of yellow fever, was fined the limit provided by law, but he appealed his case.——One New Orleans newspaper maintains there has been no yellow fever in the city. It is said that last week one of its reporters died of the fever and another is down with it.——In all there have been eight cases at Baton Rouge.——Patterson, La., is still suffering severely.——In New Orleans fumigation has ceased, and the emergency sanitary force has been discharged.——It is expected that by October 23 most of the quarantines will be raised.——The towns of Hamburg and Scranton, Miss., although infected, refused to take any steps against the epidemic and made it so unpleasant for the physicians who came to help them that the latter were forced to retire. The tales of the medieval ignorance of the people of these two towns are almost beyond belief.—— It is reported that the authorities have gathered much sworn testimony of "grafting" on the part of local health officials throughout the yellow-fever zone. It is to be hoped that it will be used to secure exemplary punishment.——At Natchez there has been great trouble with people who would not permit fumigation and who obstructed all efforts at rational sanitation. A prominent citizen was tried for obstructing the health authorities, but the mayor set him free. Thereon the physicians, under the leadership of Surgeon Lavinder, United States Public Health and Marine-Hospital Service, met and decided on vigorous action. The city authorities then modified their attitude.——At Pensacola, Fla., the situation is improving, but it has been very bad. The British vice-consul died last week of yellow fever. Dr. H. H. Baulter, a dentist, wrote to the Atlanta *Journal* that there was no yellow fever in Pensacola. Fate overtook him, as he died of the fever on October 3. Nearly every section of Pensacola contains foci, but a vigorous fight against the infection has wrought improvement.——Arkansas has agreed to admit Florida oranges provided they come in screened cars.——Missouri has raised its quarantine, and St. Louis has ceased its inspection service. ——The Illinois authorities, on October 14, suspended inspection at Thebes and Brookport, and it was announced that the Cairo quarantine would be raised October 17.——A fatal case of yellow fever occurred at Marion, Ind., the victim being a refugee from Louisiana.——A good deal of yellow fever is reported at Puerto Barrios, Guatemala.——In Mexico there is yellow fever at Tuxtepec, Vera Cruz, and Tezompa.——Up to the first of October it is figured that in New Orleans one person out of every 102 had had yellow fever and that one out of every 792 has died of it. The figurer went further and estimated that in a two days' visit President Roosevelt will run one chance in 3,800 of contracting the fever and one in 29,000 of dying of it.

## CANADA.

**The Montreal League for the Prevention of Tuberculosis.**—This league has established a new home, Brehmer Rest, at Ste. Agathe, fifty miles from Montreal, for patients in the pretuberculous stage. Dr. A. J. Richer, Montreal, is the physician in charge.

**Montreal's Mortality.**—Four thousand nine hundred and fifty-two persons died in Montreal in 1904 among the French-Canadian population; 2,855 were children under 5 years, 294 from 5 to 20 years, 1,348 from 20 to 70, and 145 over 70 years. There were 76 deaths in Montreal during the week ending October 7. Of this number 31 were of children under one year.

**Ontario Board of Health.**—Dr. Hodgetts, secretary of the Ontario Board of Health, has called a meeting of the board to discuss various plans for sewage disposal in connection with different towns in Ontario. The board is directing the attention of lumbering companies to the fact that a regulation of the department calling for medical men in all lumber camps must be complied with.

**Annual Meeting of the Winnipeg Medical Association.**—The annual meeting of the Winnipeg Medical Association was held in the medical library October 6, when the following officers were elected for the ensuing year: President, Dr. Gordon Bell; first vice-president, Dr. E. W. Montgomery; second vice-president, Dr. J. R. Davidson; secretary-treasurer, Dr. Charles Woollard; executive committee, Drs. Mary Crawford, Hugh MacKay, A. D. Carscallen and N. J. McLean.

**Personal.**—Dr. Bruce L. Riordan, Toronto, surgeon to the Grand Trunk Railway, has been appointed division surgeon of the middle, northern and southern divisions of that railway in Ontario.——Dr. D. King Smith, Toronto, has returned from a trip to England.——Dr. E. R. Frankish, Toronto, has gone to trip to England.——Dr. E. R. Frankish, Toronto, has gone to the hospitals of London and Dublin.——Dr. Coote of Quebec has reported to the government of the province of Quebec that trachoma is prevalent along the line of the Quebec & Lake St. John Railway.——Dr. G. W. Elliott of the immigration department of the Canadian government has just been appointed Canadian medical inspector at Ellis Island, New York.——On behalf of the practitioners of Winnipeg Dr. H. H. Chown re-

cently presented Dr. Chestnut of that city with a handsome cabinet of silver.

**Hospital News.**—During the week ending October 14 an additional $22,000 was subscribed to the Toronto General Hospital.——Three hundred and seventy-five patients were treated in the Winnipeg General Hospital during the week ending October 7; of these 271 were men, 69 women and 35 children; 97 outpatients were also treated.——Dr. Charles Doherty, superintendent of the British Columbia Provincial Hospital, states that there were 353 inmates in that institution on September 1; that 11 were received during September, and that 1 died. There were 362 in the hospital on September 30, 1 being discharged on probation.——The Western Hospital, Montreal, recently received a bequest of $2,000 from the late Mr. W. S. Evans.——Additional accommodation has been arranged for typhoid fever patients at the Winnipeg General Hospital. So far the death rate is low for the number of cases reported.——The new Alexandra Infectious Diseases Hospital in Montreal is nearing completion, but $150,000 is yet needed to carry out the plans of the trustees successfully. One hundred and twelve beds will be required for the three wards, for diphtheria, scarlet fever and measles.

## FOREIGN.

**Master of Russian Pharmacists.**—Prof. J. Trapp, professor emeritus of pharmaceutics at the St. Petersburg Military Academy, celebrated his ninetieth birthday in September.

**Osler to Lecture.**—Dr. Osler, according to the *Medical Press*, has accepted the post of Thomas Young lecturer on medicine at St. George's Hospital, London, and will give a series of lectures and demonstrations at the hospital next spring on the diagnosis of abdominal tumors.

**Plague in Australia.**—A fatal case of bubonic plague occurred at Townsville on August 4. The patient, a boy aged 13, was employed in a chemist's shop and lived on board a coal hulk moored at the wharf. Several plague infected rats were found on the wharf. Two plague patients are under treatment at Cairns.

**Dengue in Cuba.**—Acting Assistant Surgeon Nuñez reports that the epidemic of dengue in Matanzas continues to spread. No prophylactic measures of any kind are being observed against its dissemination, in view of the fact that the disease is assuming a benign form and that no deaths have been reported. Some cases of dengue have been reported from Limonar near Matanzas.

**Care of School Children in England.**—The annual report of Dr. Davies, the medical officer of health in Bristol, states that there are 65,000 children in the schools in that city and that there is urgent need for their medical inspection. The London board of education has a medical officer and is preparing a scheme of inspection. Blackburn, Leicester and Liverpool are also moving in the matter, and Dr. Davies in his report states that if Bristol took some action it would not only be a wise measure from the viewpoint of public health, but would also prove a saving in taxes.

**Yellow Fever in Central America.**—It is reported that yellow fever, or a disease closely akin to it, has made disastrous progress during the last few months in the lowlands on the Atlantic slope. While it is difficult to get at the facts, there seem to have been several deaths in towns situated at some distance from each other. The situation is reported to be particularly deplorable at Zacapa and Gualan, on the Guatemala Northern Railroad. This railroad has been compelled to close construction camps nearest to the infected region; mail trains only are operated. Several deaths from yellow fever in the American colony have been reported.

**Petition to Legislature of Argentine Republic.**—A bill is now pending in the Argentine legislature which aims to protect the interests of the medical profession. The physicians and medical students throughout the land are intensely interested in the passage of the bill. A petition asking for immediate action on the bill and its acceptance, with such modifications as experience may suggest, is to be presented to the chairman of the house of deputies. The petition has been kept at the office of the *Semana Medica* at Buenos Ayres, and more than a thousand signatures had already been received by September 1, the date of the last issue of the *Semana* that has come to hand.

**Sanitation in Manchuria.**—According to *Public Health Reports*, there has been earnest and hearty co-operation in Niuchwang between the Japanese military administration and the consular body in providing strict quarantine regulations. In the enforcement of this, together with all regulations governing the native Chinese city, the military administrator and his staff have conducted all the executive functions and are justly entitled to the credit, as under military occupation they would have been blamed if they had neglected to provide sanitary precautions and an epidemic had followed. Under Russian occupation, both cholera and plage infested Niuchwang at times, although the Russians, under a civil administration, also battled with uncleanliness and initiated quarantine regulations. Although they were not successful, cholera having made its appearance in 1902 and bubonic plague in 1903, still the pioneer sanitary campaign of the Russians in the native city blazed the way, as it were, notwithstanding that the immediate beneficial results were uncertain. The loss from cholera in 1902 being only 1,013, and in the year 1903 from plague only 890, indicates that the precautions taken served to check the spread of the dreaded epidemics. It is believed by the port physician that Niuchwang will be fortunate enough to pass the season without the appearance of any epidemic. The whole Chinese district of Niuchwang is scoured and cleaned with the regularity of clockwork. Twenty Japanese, from the medical staff down, are specially detailed on the service. They employ sixty Chinese and as many Chinese carts. The district is divided into three sections. In each section every morning a physician sets out on his daily round from door to door. Two gendarmes go with him. It is his first duty to find out if any fresh cases of illness have appeared. He has to see at the same time that the premises are cleaned well, that filth and dirt are put in their right place, and that the refuse matter is gathered in the garbage box provided for the purpose. The cleaning force follows, with its train of twenty Chinese carts. A Chinese policeman takes the lead. Bell in hand, he keeps ringing the bell, as if the welfare of all Niuchwang depended on it. The people within hearing are reminded of the appearance of the procession. The contents of the garbage box must be emptied on the carts. This is paramountly positive. When the carts are loaded well, or have taken over what there was to receive, they start on a march out of the mud wall to the dumping ground, or rather dumping hollow. Earth is thrown over the heap to cover it up. Meantime the disinfecting force of seven has taken its turn. A medical expert is of the number. He has gone over the reports of the inquiry force for the day, and can tell what particular points await his call. He has marked out the day's round before he sets out. Disinfectants are liberally applied when necessary. The fresh cases of illness, if there be any, are examined and their nature is ascertained.

## LONDON LETTER.

### Increase of Lunacy.

The fifty-ninth annual report of the commissioners in lunacy has just been issued and again shows an increase in the prevalence of lunacy in the population of England and Wales. The number certified as insane on Jan. 1, 1905, was 119,829, being an increase of 2,630 on the number for the previous year. This increase for 1904 may be compared with those of 3,238 for 1903, 3,251 for 1902, and 2,769 for 1901. The average annual increase in the ten years ending December, 1904, was 2,575, and in that of the five years ending on the same date, 2,644. The increase in 1904 thus exceeded the average annual increase in the ten years by only 55, and was less than that in the five years by 14. On Jan. 1, 1905, the total number of certified insane in England stood to the estimated population in the proportion of 1 to 285, or 35 per 10,000—an increase of 1.09 per cent. on the ratio for the same day of the previous year. In 1886 the ratio was 31.3, so that it has increased by 12 per cent. in the past nine years. The commissioners direct special attention to alcoholism as one of the causes of the increase of lunacy. In the five years 1899-1903 it was an assigned cause of insanity in 22.7 per cent. of the male admissions to asylums and in 9.4 per cent. of the female.

### Scalp Isolation in Ringworm in School Children.

At the Congress of Public Health, recently held in London, Dr. David Walsh described an ingenious method of treating ringworm of the scalp which enabled the child to attend school —a thing which at present is impossible except in large cities where special schools for children suffering from ringworm are provided. The advantages of the method are great if the great loss of education which the intractable nature of the disease entails be considered. The scalp is first shaved, no matter whether there be one patch of ringworm or many; it is then rubbed with turpentine, washed with soap and water, and dressed with a germicide, such as a weak solution of formalin or sulphurous acid. It is then exposed to the *x*-rays for ten minutes, and finally it is painted with several coats of flexible collodion containing 10 per cent. of salicylic acid. The use of the *x*-rays is not essential; a mild irritant application may be substituted for it. In the next few days a fresh coat of collodion is applied, especially if there is any tendency of the

collodion cap to crack. If desired, the cap may be strengthened with a coating of rubber solution, with Unna's zinc-gelatin, with a thin layer of cotton wool, or with strips of rubber adhesive plaster. After a week or days the cap is forced up one-eighth of an inch by the growth of the hair. It can then be gently stripped off, bearing on its under surface the firmly adherent stumps of diseased and healthy hairs. If it can not be stripped off without causing much pain its removal may be rendered easier by inserting a pair of scissors and snipping some of the hairs. The ringworm hairs are twisted and irregular as they were on the scalp, and some of them are turned white, presumably from the action of the ether in the collodion. The process may be repeated as often as necessary. An objection to the treatment is that collodion is somewhat costly, but no doubt cheaper substitutes, such as rubber solution, may be found.

### Scarlet Fever in London.

For some weeks the officials of the Metropolitan Asylums Board have been coping with one of the most serious outbreaks of scarlet fever which has occurred in London for some years. It is now thought that the outbreak has passed its maximum stage, though according to the last report over 100 patients have been removed from their homes in one day. There are now under treatment in the fever hospitals 4,228 cases. The disease is scarlet fever in 3,404, diphtheria in 685 and typhoid fever in 138. Scarlet fever is prevalent in all parts of the metropolis.

## Correspondence

### Medical Reciprocity.

DALLAS, TEXAS, Oct. 5, 1905.

*To the Editor:*—The student of European history, no doubt with an amused smile on his lips, has frequently read about the ridiculous and petty conditions that existed in Europe, especially in Germany, in bygone centuries. A number of small principalities and duchies existed then along the Rhine and in the German empire, and with incredible jealousy and hostility those petty monarchies watched over their prerogatives and rights and surrounded themselves with a barrier of tolls and taxes that made trade and travel only too difficult. The Napoleonic wars, the revolution of 1848 and the German-Austrian war of 1866 swept those little principalities away and in their stead we find a German nation, a united German empire. Before the emancipation of Alexander the Second, the Russian peasants were tied to the soil, to the place of their birth, and the Russian Jews, even at the present time, with certain exceptions, are kept within a certain district, the so-called "pale" of Russia. The American people are proud, and have a right to be proud, of their country, of the vast progress it has made and of the success of the doctrines promulgated by its founders. Every artisan or every mechanic, every tradesman, born in Alaska or Florida, whether he has worked in Maine or California, under the privileges granted him by the Constitution of this country, has a perfect right to leave his abode, to go wherever he pleases and to start his work again, without interference from any authority.

This rule, however, does not seem to hold good for the medical profession of the country. The restrictions placed by the different state boards have practically made the physician a slave to the place and state he happened to locate in. There is no denying that these restrictions were well meant and were made for the benefit of the people and for the benefit of the honorable and honest members of a noble profession. While they were drawn apparently to protect the public against the importunities of the quack and the itinerant vendor of medicine and to protect the better educated, better trained part of the profession from the vast army of ill-prepared, untrained graduates of third-rate colleges, these rules work untold hardships on a number of good, honorable members of the profession. It is a difficult matter for a physician to settle in a new locality when broken-down health, lack of congeniality, of scientific instruction and a number of other factors compel him to take this step and to commence work again in a strange community. At the outset he is confronted with the difficulty of an examination before a state board. The demands of active practice, the strenuous life the physician leads, the demands of his family and the financial part of his practice, in the course of years, have made him forget the exact number of blood corpuscles to the square inch, or the exact origin of certain nerves or muscles, or the different effects of certain drugs which have become obsolete. Yet that very same man has, perhaps, lived and worked in a community for many years as a respected and beloved physician. He may have helped to build up a city and have been a useful member of society; in short, he may have been a good man in every respect. Still, should he decide or be compelled to change his place of abode, he is confronted at the outset with the insurmountable barrier of an examination before a state board.

The situation is extremely unfair. A physician in Germany can change his location from West Prussia to Bavaria without any trouble; a physician practicing in Ems in summer may practice in Italy or the Riveria during the winter*; but let any physician, let us say from Mississippi, visit a summer resort in Colorado or Michigan and dare to prescribe for a friend or acquaintance, would not the state board swoop down on him and haul him into court? Ours is one country, with one language, and those measures of protection, originally well meant, are certainly an injustice to and a burden on many physicians.

Many progressive and enlightened members of the profession have already mentioned this anomalous condition in the medical press of this country, and the efforts of some state boards in accepting certificates from certain states as an exchange of courtesies, is, indeed, a step in the right direction, but there is still plenty of room for improvement. In my opinion, a physician who contemplates a visit to some health resort for a month or two should be allowed to practice there on a temporary license. A physician who is compelled to go to another state should be permitted to practice if he produces a properly signed certificate of his county and state society, like a church letter attesting his moral and professional qualifications.

William Osler, in his Farewell Address (THE JOURNAL OF A. M. A., Aug. 9, 1905, page 366), says: "A few months ago a man who is registered in three states, an able, capable practitioner of twenty years' standing, a hard student in his profession, a physician who has had charge of some of the most important lives of this country, had to undergo another examination for license." What an anomaly! What a reflection on a united profession!

EMILE ABONSON, M.D.

### The Proportion of Night Labors.

DAVENPORT, IOWA, Oct. 14, 1905.

*To the Editor:*—In THE JOURNAL of this date you refer to White, who considers the idea that a majority of labors terminate at night as probably fallacious and suggests a further consideration of statistics.

In the *Medical News*, Sept. 12, 1891, Dr. G. W. H. Kemper recorded the statistics of 1,000 consecutive cases, 13 of which were twins, the hour of two births not recorded, leaving a total of 1,011 births. Dividing the day into six-hour periods beginning at midnight, there were in the first 291, in the second 267, in the third 222, and in the fourth 231 births, being an excess of 33 in favor of the night hours.

Of the 250 consecutive labors of which I have kept notes 81 terminated in the first quarter of the day, 68 in the second, 43 in the third and 58 in the fourth, being an excess of 28 in favor of the night hours.

In both series there is a decided maximum between midnight and 6 a. m., and I believe that it will be found that this generally holds good.

C. H. PRESTON.

### "The Mosquito Theory in Text-Books."

PHILADELPHIA, Oct. 16, 1905.

*To the Editor:*—The criticism of Dr. McCaw [THE JOURNAL, Oct. 7, 1905, p. 1100] is correct, and I am very much obliged to him for calling my attention to an obvious oversight, which escaped me in the revision, owing to the pressure of many duties. I wish also to thank Major Kean, surgeon, U. S. A., for noting the error to me simultaneously. The profession has been good enough to call for a new printing, which is in progress, and I have taken this opportunity to make the necessary correction.

J. H. MUSSER.

* We feel sure that our correspondent is misinformed as to these statements.—EDITOR.

## Marriages

W. A. WEST, M.D., to Miss Marion Cottrell, at Richmond, Va., October 3.

RICHARD LEE GILL, M.D., to Miss Tillie Fehsenfeld, at Baltimore, October 11.

ROY H. ELLIOTT, M.D., to Miss Gertrude Vance, both of Connersville, Ind., October 18.

AUBREY POSEY, M.D., to Miss Katherine E. Howard, at Chapel Point, Md., October 5.

JOHN C. D. DAVIS, M.D, St. Michaels, Md., to Miss Bertha Beck, at Baltimore, October 6.

J. PHILIP GIBBS, M.D., to Miss Mary Brent McAshan, both of Houston, Texas, October 18.

EUGENE TOWNER SENSENEY, M.D., to Miss Miriam Coste, both of St. Louis, October 18.

GEORGE WILLIAM FOX, M.D., to Miss Marguerite Romadka, both of Milwaukee, October 18.

CHARLES E. PARKER, M.D., Sterling, Ill., to Miss Stella Geoffroy of Rock Falls, Ill., October 5.

FREDERICK S. BOOTAY, M.D., New York City, to Miss Edna G. Cavaller, at Baltimore, October 4.

LANCELOT ELY, M.D., Flanders, N. J., to Miss Alice Louise Lawrence of Dover, N. J., October 10.

SAMUEL PATTEN AMES, M.D., to Miss Lotta Marie Smiley, both of New York City, September 30.

NEWELL SIMMONS FERRY, M.D., Memphis, Tenn., to Miss Caroline Taylor of St. Louis, October 14.

HOWARD PENNEL, M.D., Downingtown, Pa., to Miss Hannah S. Mellor of West Chester, Pa., October 11.

WILLIAM ALLEN TURNER, M.D., Newman, Ga., to Miss Annie Kirk Dowdell of Opelika, Ala., October 18.

JOHN ALEXANDER ROBINSON, M.D., New York City, to Miss Grace A. Bergiels of Newark, N. J., October 12.

PERRY B. GOODWIN, M.D., Summum, Ill., to Miss Mabelle B. London of Bristol, Conn., at Astoria, Ill., October 3.

JOHN L. MYERS, M.D., Shepherdstown, W. Va., to Miss Nannie Van Metre of Berkeley County, W. Va., October 6.

## Deaths

**Eugene P. Bernardy, M.D.** Department of Medicine of the University of Pennsylvania, Philadelphia, 1868, of Philadelphia; for several years connected with the teaching staff of the University of Pennsylvania and at one time visiting obstetrician to the Philadelphia Hospital; a member of the Philadelphia County Medical and Philadelphia County Obstetrical Societies, and also of the Medical Society of the State of Pennsylvania and the American Medical Association, died in Atlantic City from Bright's disease, October 11, aged 58.

**Frank Buller, M.D.** Victoria University, Coburg, Ont., 1869; McGill University, Montreal, 1876, died October 11 at his home in Montreal, aged 61. For seventeen years he held the post of ophthalmic and aural surgeon to the Montreal General Hospital, but resigned a few years ago to accept the same position at the Royal Victoria Hospital. He was one of the most noted oculists of America, and his recent researches in conjunction with Dr. Casey A. Wood, Chicago, on the effects of wood alcohol will be remembered.

**William P. Tonry, M.D.** Baltimore Medical College, a mining and chemical expert, formerly connected with city and state boards of health, died at his home in Baltimore, October 3, from angina pectoris, aged 64. He was an A.B. of Boston College, and a Ph.D. of Georgetown University. For three years he was in the laboratory of the surgeon-general's office, United States Army, and for several years held the chair of chemistry in different colleges

**Alonzo Morris Buck, M.D.** University of Georgetown Medical Department, Washington, D. C., 1866, hospital steward during the Civil War; since that time an employé of the War Department and at the time of his death chief clerk of the sanitary and disbursing division of the surgeon-general's office, died at his home in Hyattsville, Md., September 29, after an illness of several months, aged 79.

**Decatur Curran Anderson, M.D.** Tulane University of Louisiana Medical Department, New Orleans, 1901, of Moss Point, Miss.; formerly representative of the Louisiana State Board of Health in Central America, who on the outbreak of yellow fever at Tallulah, La., volunteered his services, died from the disease September 27, aged 28. The local chapter of his fraternity passed resolutions of respect to his memory.

**Molton E. Hornbeck, M.D.** Department of Medicine of the University of Pennsylvania, Philadelphia, 1865, for forty years local surgeon for the Lehigh Valley Railroad; a member of the Lehigh Valley Medical Society and the Medical Society of the State of Pennsylvania, died at his home in Catasauqua, Pa., October 9, from cerebral hemorrhage, aged 63.

**Ellery Channing Clark, M.D.** University of Vermont, Burlington, 1860, surgeon of the Eighth New Hampshire Volunteer Infantry in the Civil War, several times wounded; who was examiner in the United States pension office, Washington, until 1902, when he retired, died at his home in Baltimore October 3, after a lingering illness, aged 69.

**Carl Seiler, M.D.** Department of Medicine of the University of Pennsylvania, Philadelphia, 1871, formerly of Philadelphia, for twenty years a member of the faculty of the university, died at his home in Reading, Pa., October 10, aged 56. He was a member of the State, Philadelphia County and Lackawanna County Medical Societies.

**Joseph R. McOscar, M.D.** Ohio Medical University, Columbus, 1896, of Waterville, Ohio, a member of the American Medical Association and the Northwestern Ohio Medical Association, died from acute mania at St. Elizabeth's Hospital for the Insane, Washington, D. C., October 6, after an illness of three weeks, aged 41.

**Edgar S. Hooper, M.D.** Rush Medical College, Chicago, 1895, a member of the American Medical Association, Wisconsin State Medical Society, Central Wisconsin Medical Society and Lafayette County Medical Society, died recently at his home in Darlington, Wis., after a long illness from tuberculosis, aged 36.

**Reason S. Boles, M.D.** University of Wooster Medical Department, Cleveland, Ohio, 1869, a pioneer physician of Richland County, Ohio, health officer of Mansfield, died at his home in that city October 3 from neuralgia of the heart, after an illness of less than forty-eight hours, aged 62.

**Thomas Addison Jenkins, M.D.** Bellevue Hospital Medical College, New York City, 1897, who has been residing in Denver for the last four years, died from consumption at the home of his brother in Brooklyn, N. Y., October 11, aged 33.

**Joseph B. Jones, M.D.** College of Physicians and Surgeons in the City of New York, 1855, at one time coroner of Kings County and health commissioner of Brooklyn, died at his home in Brooklyn, October 9, aged 77.

**Eli Ayer Chase, M.D.** Long Island College Hospital, Brooklyn, N. Y., 1872, while despondent from ill health, committed suicide by shooting himself through the head at his home in Brockton, Mass., October 3, aged 58.

**Stephen Lett, M.D.** Toronto University Medical Faculty, 1879, of Guelph, Ont., died October 11 in the Homewood Retreat, Guelph, an institution over which he presided ably several years ago, aged 58.

**John A. McKenzie, M.D.** College of Physicians and Surgeons, Boston, Mass., 1892, assistant superintendent of the Provincial Hospital for the Insane, Halifax, N. S., since 1893, died in Halifax, October 12.

**James E. Baker, M.D.** Department of Medicine of the University of Pennsylvania, Philadelphia, 1881, a retired practitioner of Lancaster, Pa., died at his home in that city, September 29, aged 52.

**Wilson T. Bassett, M.D.** Albany (N. Y.) Medical College, 1844, one of the most prominent practitioners of Otsego County, N. Y., died at his home in Cooperstown, October 3, aged 84.

**Lawrence O. Wood, M.D.** Cincinnati, 1899, of Madisonville, Ky., died at Deaconess Hospital, Louisville, October 15, following an operation for appendicitis, aged 35.

**Samuel C. Allaband, M.D.** Department of Medicine of the University of Pennsylvania, Philadelphia, 1865, died at his home in Philadelphia, September 21, aged 62.

**Upton A. Sharretts, M.D.** Pennsylvania, 1883, formerly of Frederick, Md., died at Colorado Springs, Colo., October 8, from hemorrhage of the lungs, aged 47.

**James C. McCallister, M.D.** Castleton (Vt.) Medical College, 1850, died recently at his home in Genoa, Ill., aged 90, and was buried September 27.

**Morris Wiener, M.D.** University of Berlin, Germany, 1839, author, editor and litterateur, died at his home in Baltimore, October 12, aged 94.

## Miscellany

**Fifty Annual Mineral Water Courses.**—Carlsbad has recently celebrated the silver jubilee visit of one of its guests, a Moravian manufacturer, who returns year after year to take a course of the mineral waters at this health resort. His first visit was in 1828, when he was brought there in his tenth year on account of a kidney affection. His fiftieth resort to the Carlsbad springs this year was greeted with much ceremony by the town authorities, and the mayor announced that one of the walks is to be named after him, the "Proskowetz promenade."

**Medical Ethics.**—The remedy for existing defects and evils in our ethical system does not depend on ironclad, written nor specific rules of conduct, nor on the strict observance of such principles of ethics generally accepted as proper and necessary. We have at the outset accepted the philosophic statement that a code of perfect personal conduct can never be made definite. This is easily accounted for by changing conditions, unusual exigencies and emergencies, the evolution of thought, action and ideas, and the kaleidoscopic nature of our daily lives. Character must be the foundation on which ethical action is to be built. Proper conduct among men and affairs must be left to the man, his tact, his judgment, his education and his experience. The ranks of the medical profession must be recruited from men of broad minds, of high ideals, of lofty purposes, of enlightened thought, of charitable tendencies and of honest intentions. This is the remedy for the defects in our ethical system and when this is accomplished, the medical profession will be what it should be: a common brotherhood working harmoniously for the common welfare of humanity; dispensing charity to all, rendering pain less poignant, suffering less acute, encouraging the depressed and the despairing, making the world better and brighter and life more worth the living.—Frankle, in *Denver Medical Times.*

**Danger of Excessive Water Drinking.**—In the *Blätter für Volksgesundheitspflege* of Berlin, Dr. K. Beerwald says that "there are few more positive feelings than that of thirst. While we may go for weeks without food, in a few days without drink men become desperate. This fact is easily comprehended when we consider that 63 per cent. of the body is water, and that we give out each day a large amount of fluid through the lungs, skin and excretions. However, we need to drink relatively very little fluid, as our food is to a large extent water, even dry bread being 40 per cent. water, while juicy fruit contains 80 per cent. On the hunt, mountain tour, or walk, those people have the most endurance who do not stop at every inn, who do not drink from every spring. And it is rather an indication of bodily weakness if these exercises produce excessive perspiration and extreme thirst. These two things are simultaneous, the one causes the other; the one who perspires a great deal drinks a great deal, and again, because he has drunk he perspires. Thus the body becomes a distilling apparatus, but it should be borne in mind that the work performed has a great deal to do with the causation of weakness and exhaustion. Excessive water drinking not only produces temporary disturbance, it also creates direct organic disorders; the heart and kidneys are particularly affected by the excess, and in these cases the vascular system is overcharged and the heart and kidneys overworked. Proof of such a condition is frequently seen in cases of slight injury. A man who suffers frequently from thirst bleeds easily, and we may well consider that excessive thirst is a sign that the amount of fluid in the body is not kept within bounds, and that this condition must be remedied by opposing the feeling of thirst. We do not mean, however, that on hot days it is not natural to have a more positive feeling of thirst than at other times. When the high temperature takes from the body its fluids we must supply their loss. But even in this case nature has supplied us with abundant fruits, and these should be the first things with which we seek to satisfy our thirst. If, however, one must drink, the best thing is water, or better still, water and lemon juice, or occasionally a glass of milk. We should never drink beer or alcoholic drinks, which only exhaust and tire. It is certainly not a blessing for the fatherland that beer has grown to be the national drink of the Germans."

**Professional Lawlessness.**—Let us admit that toward all sorts of notification required by law, physicians are more or less indifferent and exercise a discretion that is somewhat excessive and dangerous, even for men as wise and good as the best of them are. The law requires of physicians three sorts of notification—one relating to deaths, another to births, and a third to certain infectious diseases. Deaths are certified by physicians wherever the law forbids interment of a dead body before the fact and circumstances of death have been recorded. Where bodies may be buried without a permit, there deaths are not registered, and where burial permits are not required, there the people, including often the sanitary authorities, reject the advice of the medical profession, which has for 60 odd years maintained that the fundamental requirement of a sanitary administration is a complete and accurate account of current mortality. This is no defense of physicians. It is a charge of ignorance, wilful ignorance, against all the people of all but ten of the States comprising this Union. Physicians do not register births in the United States, though they know that a satisfactory statement of profit and loss in population cannot possibly be made without complete information as to the sources of damage and repair. Not one state, not one city, in this country can state a reliable birth-rate for any year, though hundreds of physicians regularly register the births occurring in their practice. Here again physicians are not defended, but the people of the United States, without distinction of locality, are charged with a remarkable lack of intelligence in conditioning more than a score of important privileges and immunities on the attained age of the citizen, without mentioning in any law the simple document upon which proof of age attained may rest.—*American Medicine.*

**Blunders in English.**—We sympathize with our contemporary, *American Medicine*, in the following complaint: The contributor who headed a paragraph, "A Case of Anthracosis," and reported a case of anthrax—well, his etymology was better than his pathology! There is scarcely a report or text-book published which does not use the words *case* and *patient* as synonymous—"the case recovered, died," etc., and the trials of the editor with manuscripts which repeat that "the case had no temperature," etc., are hard to bear. In a text-book on nervous diseases the word is further abused in the expression, "the case cured through stretching of the plantar," "the case was awakened by a rat running across the bed." The authors are not seldom most imperative that "my manuscript shall not be changed in any way"—at least for the better. In a much-used text-book a paragraph in large caps is entitled: "TO DISTINGUISH CHICKEN FROM SMALL-POX," and that sort of scientific, zoologic, or grammatic diagnosis reappears in most of our journals. Even this amusing nonsense is surpassed by another title in the same book, reading: "TO ELIMINATE THE KIDNEYS." In a well-known text-book, the author within half a page speaks of himself as "we," "I," "the author," "the writer." When he has to quote another, one can never know to whom the term, *the author*, or *the writer* (absurd in speaking of one's-self) refers. It is of course to be expected that this author should write:

"The sexual bladder."
"A sequelæ."
"Malformations is a congenital hernia, etc."
"Cerebellar galt exists."
"Diagnosis is between this disease and migraine."
"Hysterical joint is a rigid, tender joint."
"A hallucinatory expression of ants creeping over the body."
"Astasia-abasia is inability to stand or sit well in hysteria."
"Diagnosis should not be confounded with other diseases."
"Nerve-energy is, to my mind, but the most refined form of electricity."
"The physiological mechanism in somnambulism is out of kilter so to speak."
"Excision of the ganglion is to be had." "cure will be had, etc."
"Early adult life is a predisposing condition of neuralgia."
"Neuralgia is more frequent in the female sex."
"Insomnia is sometimes called sleeplessness and is given to those conditions of insufficient or restless sleep or to the entire absence of sleep for a long time."
"Headache is a condition of pain in the head."
"There is no department of neurology more neglected than a proper understanding, or at least, if appreciated, the neglect of sufficient advice to convalescents from serious disorders of the nervous system, and in this place we shall devote especial consideration to functional diseases, those so considered in the absence of accurate scientific data to throw the light of a definite pathology upon many cases of them."

# Pharmacology

### Which Is It, a "Proprietary" or a "Patent" Medicine?

On the opposite page is a photograph of a full-page advertisement from the *Standard*, one of the leading London dailies. The page of the *Standard* is larger than that of any American newspaper, the space occupied by the advertisement being 18 inches by 24 inches. We have an assortment of advertisements of Kutnow's powder clipped from English newspapers, showing, as our correspondent who sent them remarks, that this is one of the best advertised "patent" medicines in England. In this country it is one of the most widely advertised "proprietary" medicines, as will be noted by a reference to our medical journals. We had to reduce the advertisement to get it down to our page limit, and part of the matter is hard to read without a magnifying glass. We have a variety of literature that would make interesting reading, had we space for it; but that included in the advertisement is sufficient to show what a wonderful remedy, according to the manufacturers, is this Kutnow's powder. It will be noticed that the testimonials from physicians—four of the six, we are proud to notice, are Americans[1]—are separated from those of the laity. This is wise, as the two do not mix well.

N. B.—We do not charge anything for inserting this advertisement.

### Protest Against Paid Writeups.

One of the most discouraging phases of the proprietary medicine question is the fact that there are so many physicians who are ready to write up proprietary preparations favorably—but never unfavorably—for other than purely scientific reasons. There can be no objection to a physician writing and publishing an article on an ethical, strictly non-secret proprietary preparation, provided it is done with absolutely honest motives. We regret to say, however, that there are few of such articles written—so few that when one is presented it is looked on with suspicion. This abuse and species of graft is more prevalent in this country than in any other for well-known reasons, but medical journalism in Germany—and France also, to but slightly less extent—seems to be seriously affected by the same curse. Certain medical journals, judging from their contents, are published solely for the purpose of exploiting proprietary articles, and many of our German exchanges seem to have joined in this species of graft. Hence, it is not surprising that there has developed an opposition among the physicians there, as is noticed in a recent number of the *Muenchener medicinische Wochenschrift*. This journal states, September 26, that a petition with numerous signatures is being circulated, to present to the medical chambers (Aerztekammer) throughout Prussia, the purpose of which is to abolish the fraudulent practice of paid medical testimonials to the products of manufacturing chemists. The editorial continues:

"This fraudulent practice is, as is generally known, a by-product of our luxuriantly flourishing drug industry. The surest way to introduce a new drug to physicians is to have it scientifically recommended in the medical press. As a recommendation of this kind can not be obtained for every new remedy, many of the manufacturing chemists—and some of the most reputable firms among them, unfortunately—accomplish their purpose by paying physicians to write up apparently scientific articles on their preparations. Sad to say, there are plenty of physicians who will do this; some among them make an actual business of it, as they offer their services as scientific propagandist for every new remedy that turns up. It would be highly commendable if the Medical Chambers would turn their attention to this scandal, even if for nothing more than to call the attention of physicians at large to it more than in the past. It may be difficult, however, to find a remedy for it, as it is seldom possible to prove that an author has written for pay. But, on the other hand, much would be gained if the reputable medical press would be more critical of works devoted to the recommendation of new manufactured remedies. The articles of certain authors, well known to all attentive readers of the medical press, which appear again and again with recommendations of new remedies in the various journals, should be rejected by the editors of first-class medical publications and should not be mentioned in the abstracts of the current literature department. If the medical press becomes closed to such articles, the manufacturing chemists will have no further use for them and they will not care to pay for them."

The time is ripe to have this great evil taken up in the United States.

### Commercial Journalism.

The following is a copy of a letter to a firm which advertises a proprietary remedy from a monthly medical journal that is presumed to be published in the interests of physicians:

"*Gentlemen:*—We intend to establish a new department in our magazine. Its purpose will be to teach the successful application of drugs and other remedial agents. Our contributors will be invited to make use of this new department and we expect it to become of considerable interest and value to our subscribers. The name of this department will be 'Modern Therapeutics.' It will be conducted on a liberal and broad-gauge plan. It will follow our original department.

"Its value to the general practitioner will lie in its up-to-dateness and liberalism. The usefulness of an ethical pharmaceal product with an established reputation could be dwelt on in this department with much propriety. The value and range of usefulness of ———— might be discussed in these columns with considerable interest to our subscribers and benefit to you. *We could secure a high-grade original paper dealing with the indications for your preparation and its merit as a therapeutic agent. This paper would embrace about 1,000 words, would be prepared by a good writer and trained clinician and would be based on actual clinical knowledge of your product.* We would have experimental work done along lines that would enable us to secure first-hand knowledge of your preparation's value.

"In view of the preparation and publication of the paper we propose, we feel sure you would be willing to place a page advertisement in our columns. But aside from this the ———— ———— has sufficient merit to warrant your advertising patronage. The ———— is one of the best known medical magazines in the country and as an advertising medium takes rank with the best. It has been published for — years and has a circulation of 10,000 copies among the best men in all parts of the country. We shall allow you a discount of 35 per cent. from the attached card of rates.

"We should like to learn your views on this proposition, all the more so since it is somewhat out of the ordinary and has, we believe, considerable merit. Thanking you for your reply, we beg to remain, Yours very truly,

"————— ————."

### A Good Answer.

CINCINNATI, Sept. 11, 1905.

*Dear Doctor:*—If you have a case of Bright's disease or diabetes that is giving you trouble, we desire to call your attention to two new diuretics prepared by the John J. Fulton Company, of San Francisco.

They come to us so highly recommended that we thought it our duty to place them in the hands of the profession of this city and vicinity.

They are free from narcotics or sedatives and are purely eliminative.

Exhaustive tests show that 87 per cent. of cases of chronic nephritis begin within twenty days (sometimes earlier) to show gradual subsidence of the albumin and casts and increasing specific gravity.

The modification of the diuretic used in diabetes mellitus seems equally effective, the results soon showing decrease in the specific gravity, sugar and thirst.

Should this interest you, call for a pamphlet, or we can mail you one giving reports of scientifically conducted tests in a large variety of cases. Yours respectfully,

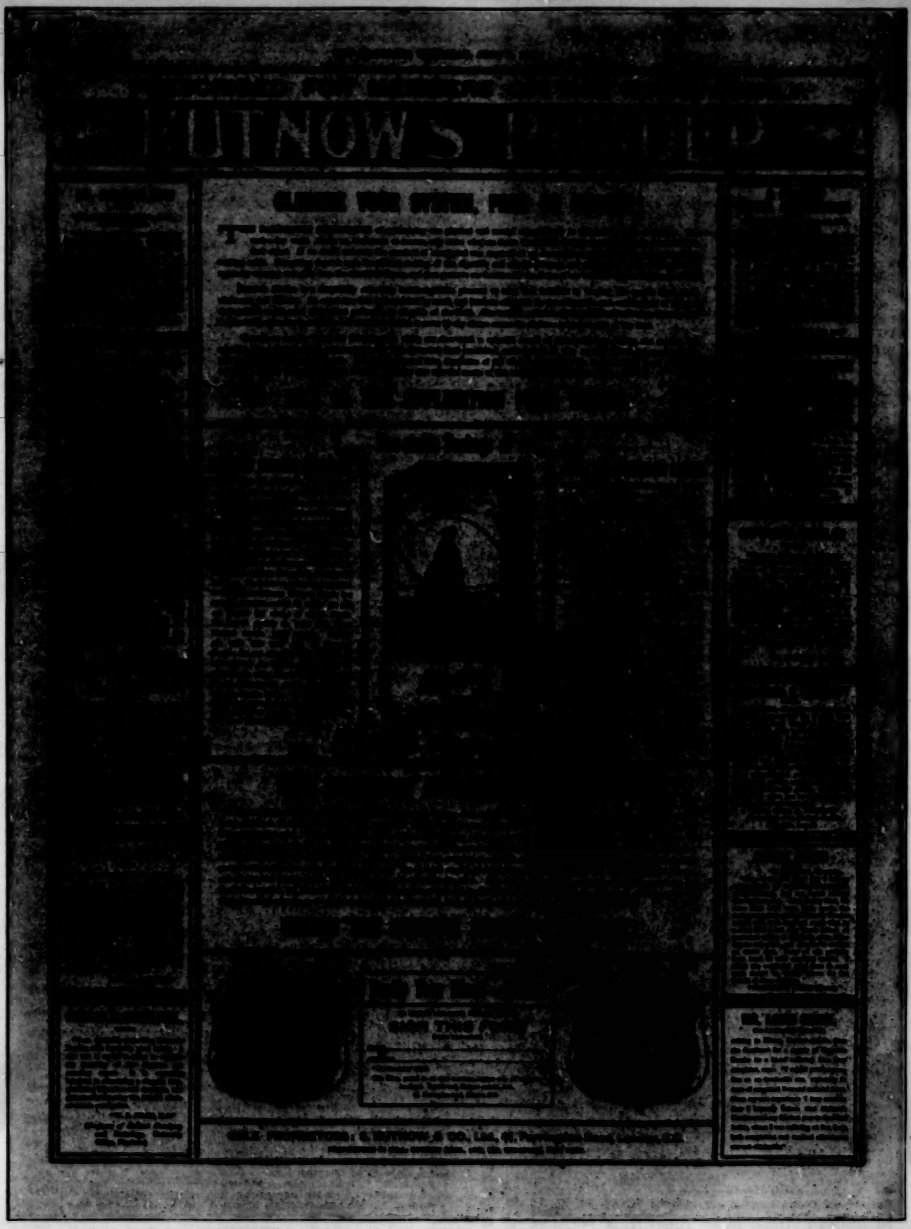
A. FENNEL & SON, Sole Agents.

Sept. 19, 1905.

*My Dear Mr. A. Fennel & Son, Druggists:*—When we want any advice from you on how to cure *Bright's disease*, or *diabetes mellitus*, we will let you know. GEO. B. OSR.

P. S.—I might add that I am getting tired of this thing of having the *patent medicine men* telling members of the *regular profession* how to practice medicine.—*Cincinnati Lancet-Clinic*, Sept. 23, 1905.

1. Of the Americans, Dr. A. A. O'Neill, is a graduate of Jefferson Medical College, 1890. He is a member of the Chicago Medical Society. Dr. Edward E. Koehler is a graduate of the Niagara University, Buffalo, 1894. Dr. William B. Jones is professor of chemistry and toxicology in University Medical College, Richmond, Va., and graduated from the University of Virginia in 1892.



Photograph of a page of the (London) *Standard*. The original size of the advertisement is 18 by 24 inches. It is a specimen of the advertising of Kutnow's powder in England.

## Queries and Minor Notes

### INSTITUTIONS FOR STAMMERERS.

Dr. H. C. J. inquires for institutions for the training of stammerers.

### MEDICAL DEFENSE COMPANIES.

CHICAGO, Ill., Oct. 16, 1905.

*To the Editor:*—Kindly inform me whether you consider the companies insuring practitioners of medicine against suits for alleged malpractice reliable. Also, give me names of some which you can recommend. H. D. W.

ANSWER.—There are many companies insuring to physicians defense malpractice suits, and it is becoming very common with physicians—and surgeons especially—to be insured in such companies. There are two advertising in THE JOURNAL, both of which we consider reliable, viz., The Physician's Defense Co., Fort Wayne, Ind., and The Fidelity and Casualty Co., New York, N. Y. The former is strictly a physician's defense company, the latter conducts a physician's defense department in connection with other insurance business.

### LIFE INSURANCE POLICIES AND THE RECENT EXPOSURES OF DISHONESTY.

MULBERRY GROVE, ILL., Oct. 16, 1905.

*To the Editor:*—In view of recent exposures regarding the old line insurance companies what do you think of the endowment policy as an investment for physicians? I have two policies in the New York Life, one for $2,500, on which four premiums have been paid, and one for $1,000, on which three premiums have been paid. Would you advise me to continue the policies? I think this question of vital importance to physicians, and a statement from THE JOURNAL would evidently prove of interest.

E. A. GLASGOW.

ANSWER.—It is generally understood by those who ought to know that there is nothing whatever in the recent life insurance exposures that show the least indication that the companies will be unable to meet their contracts. It is agreed that the assets, reserves and guarantee funds are intact. To surrender a policy, therefore, and to start over again at the higher rate of a later age would be unwise. The relative value of endowment policy, life policy, or other forms of insurance contract is a matter of the personal needs and tastes of the individual. With a large family of dependents and relatively small income, the discriminating buyer of insurance chooses a life policy because securing the most protection for the least annual expenditure. The endowment is excellent for the man with no dependents or with dependents provided for or who wishes a personal return in old age from his insurance.

## State Boards of Registration

### COMING EXAMINATIONS.

**State Board of Health of Kentucky,** Louisville, October 24, Secretary, J. N. McCormack, Bowling Green.

**Nebraska State Board of Health,** State House, Lincoln, November 8-9. Secretary, George H. Brash, Beatrice.

**Board of Registration of Medicine,** in Maine City Building, Portland, November 14. Secretary Wm. J. Maybury, Saco.

**Connecticut Medical Examining Board,** City Hall, New Haven, November 14-15. Secretary, Charles A. Tuttle, New Haven.

**Board of Registration in Medicine of Massachusetts,** State House, Boston, November 14-15. Secretary, E. B. Harvey, Boston.

**State Board of Health of West Virginia,** Clarksburg, November 14-16. Secretary, H. A. Barbee, Pt. Pleasant.

**Massachusetts September Report.**—Dr. E. B. Harvey, secretary of the Board of Registration in Medicine of Massachusetts, reports the written and oral examination held at Boston, Sept. 12-13, 1905. The number of subjects examined in was 9; total number of questions asked, 90; percentage required to pass, 70. The total number of candidates examined was 95, of whom 65 passed, including 7 non-graduates, and 30 failed. Representatives of the following colleges passed:

| College. | PASSED. | Year Grad. | Per Cent. |
|---|---|---|---|
| University of Vermont | (1893) 76; (1898) 71, 81; (1905) 71; (1905) 72, 75, 75, 76. | | |
| Baltimore Med. Coll. | (1903) 72; (1905) 71, | | 72 |
| College of P. and S. Boston | (1905) 70, 70, | | 78 |
| University of Naples | (1897) | | 74 |
| University of Boston | (1904) 76, 76; (1905) | | 74 |
| Maryland Med. Coll. | (1905) | | 70 |
| Jefferson Med. Coll. | (1892) 79; (1904) 74; (1905) 75, | | 77 |
| Woman's Med. Coll. of Pennsylvania | (1904) 79, | | 80 |
| Tufts Med. Coll. | (1905) 70, 75, 74, 75, 79, 82, | | 83 |
| Dartmouth Med. Coll. | (1905) 74, | | 76 |
| Harvard Univ., (1904) 79, 80; (1905) 71, 75, 76, 78, 82, | | | 83, 83. |
| Yale Med. Coll. | (1905) | | 78 |
| McGill University | (1899) 81; (1904) | | 78 |
| College of P. & S., New York | (1905) | | 78 |
| Western Pennsylvania Med. Coll. | (1905) | | 72 |
| College of P. and S., Baltimore | (1904) 76; (1905) | | 75 |
| Shaw University | (1904) | | 78 |
| Alberton University, Canada | (1904) | | 71.5 |
| University of Michigan | (1900) | | 89 |
| University of Pennsylvania | (1904) 81; (1905) | | 76 |
| Bowdoin Med. Coll. | (1867) | | 70 |
| Queen's University, Canada | (1905) | | 76 |
| Cleveland Homeo. Med. Coll. | (1900) | | 78 |

## The Public Service

### Army Changes.

Changes of stations and duties of medical officers, U. S. Army, week ending October 14, 1905.

Devereux, John R., asst.-surgeon, granted leave of absence for 30 days, about October 1.

Carter, Edward C., surgeon, leave of absence extended ten days.

McCaw, Walter D., surgeon, detailed to represent the Medical Department of the Army at International Sanitary Convention of American Republics, Washington, Oct. 9, 1905.

Edie, Guy L., surgeon, returned to duty, attending surgeon's office, Washington, D. C., Oct. 2, from duty with the Secretary of War in the Philippine Islands.

Reilly, John J., asst.-surgeon, leave of absence granted for six months on surgeon's certificate of disability.

Wilson, Compton, asst.-surgeon, leave of absence extended fourteen days.

Crabtree, George H., asst. surgeon, relieved from present duties and ordered to duty with Isthmian Canal Commission.

Bispham, William N., asst.-surgeon, granted leave of absence for three months, about November 1.

Munson, Edward L., asst.-surgeon, ordered to Washington, D. C., for examination for promotion.

Ebert, Rudolph G., surgeon, Raymond, Thos. U., surgeon, relieved from present duties in time to sail from San Francisco, Cal., Jan. 5, 1906, for duty in the Philippines Division.

Roberts, William, asst.-surgeon, order for duty in the Philippines Division revoked.

Hathaway, Levy M., asst.-surg., ordered to Fort Thomas, Ky., for duty.

McCaw, Walter D., surgeon, appointed member of board to investigate various systems of personal identification now in use.

Cranston, Earl W., deputy surgeon general, ordered from St. Louis Mo., to Grand Haven, Mich., and return, on medical supply business.

Vaughan, Milton, contract surgeon, left Fort Crook, Neb., for his home, Little Rock, Ark., for annulment of contract.

Kelly, John F., contract surgeon, relieved from duty at Fort Riley, Kans., and ordered to Presidio of Monterey, Cal., for duty.

Shattenberger, James E., contract surgeon, ordered to Fort Brown, Tex., for temporary duty.

Koyle, Fred T., contract surgeon, ordered to Fort Ringgold, Tex., for temporary duty.

Thorp, Charles W., contract surgeon, left Plattsburg Barracks, N. Y., for proper station, Fort Ethan Allen, Vt.

Lauderdale, Clarence E., dental surgeon, returned to Fort Sam Houston, Tex., from leave of absence.

White, J. Samuel, contract surgeon, returned to Fort Snelling, Minn., from duty with troops on practice march.

Kennedy, James S., contract surgeon, granted leave of absence for one month.

Stevens, Robert E., contract surgeon, returned from Fort Yellowstone, Wyo., to his proper station, Fort Harrison, Mont.

Wing, Franklin F., dental surgeon, ordered from Fort Riley, Kansas, to Fort Des Moines, Ia., for one month, and then to Jefferson Barracks, Mo.

Waddell, Ralph W., dental surgeon, ordered from Fort D. A. Russell, Wyo., to Fort Mackenzie, Wyo., for ten days and then to Fort Crook, Neb.

Dade, Waller H., contract surgeon, left Fort Duchesne, Utah, on ten days' hunting leave.

Koyle, Fred T., contract surgeon, returned to duty at Fort Bliss, Texas, from leave of absence.

White, J., Samuel, contract surgeon, granted leave of absence for two months.

### Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ending October 11:

Geddings, H. D., asst. surgeon-general, re-detailed for duty in the Bureau, effective September 25.

Ballbache, F. E., surgeon, granted leave of absence for six days from October 8, under paragraph 189 of the regulations.

Magruder, G. M., surgeon, granted extension of leave of absence for one month from September 26, on account of sickness.

Young, G. B., P. A. surgeon, granted leave of absence for two days.

McMullen, John, P. A. surgeon, to proceed from Gulfport to Jackson, Miss., and report to P. A. Surgeon G. B. Young for special temporary duty.

Berry, T. D., P. A. surgeon, relieved from duty at Gulfport, Miss., and directed to proceed to New Orleans, and report to Surgeon J. H. White for special temporary duty.

Glover, M. W., P. A. surgeon, relieved from duty at Victoria, B. C., and directed to proceed to Vancouver, B. C., for duty.

Stimson, A. M., asst.-surgeon, granted leave of absence for seven days from October 4, under paragraph 191 of the regulations.

Rodman, J. C., acting asst.-surgeon, granted leave of absence for seven days from October 12.

Scott, E. B., pharmacist, granted leave of absence for five days from October 4, under paragraph 210 of the regulations.

Ryder, L. W., pharmacist, granted leave of absence for seven days from October 16.

RESIGNATION.

W. H. Keen, pharmacist, resigned to take effect October 5.

# Medical Organization

## MEDICAL ORGANIZATION IN MINNESOTA.

By J. N. McCormack, M.D.

Chairman of the Committee on Organization of the American Medical Association.

BOWLING GREEN, KY.

The two weeks' itinerary planned for me in Minnesota by Dr. McDavitt, the efficient and popular secretary of the Minnesota State Medical Association, enabled me to meet representative physicians of every district and of almost every county, to hear their opinions of the plans for and possibilities of a real organization of the profession by means of a universal system of live county societies, and to discuss with them the professional conditions and needs of each locality, and furnished a most interesting and instructive field for study while on the ground, and much food for reflection since.

Two meetings were called for St. Paul, one especially for the profession of that city and one a week later for the joint benefit of it and of the seventh councilor district. Neither was well attended, and I got the impression in these meetings and from other sources that a singular apathy has fallen on the profession there, for a long time considered one of the strongest and most virile in the Northwest. The meetings at Minneapolis, Duluth, St. Cloud, Fergus Falls, Wodena, Mankato, Redwood Falls and Rochester were all well attended and representative, and were fully alive to the problems involved in this reform movement when the plans for bringing it all about and the benefits which it would bring to both the profession and public were explained to them. In fact, I have been in no section where there was greater avidity to learn the latest and most practical plans for improvement in scientific, legislative and business work or more intelligent enthusiasm manifested in putting them into operation. Along with these impressions I got that of high personal and professional standards, especially in the younger men, and in the newer sections of the state. The fees, too, were more than double those of many of the eastern and middle states, and the schedules were adhered to more uniformly.

As Minnesota is not yet an organized state in the modern sense, having only begun its real work a little more than two years ago, and having now but two-fifths of the eligible physicians in the membership, a study of the influences which had operated to produce these favorable conditions had many fascinations for me, especially in the light of my observations in other states and sections. An inquiry into their medical history soon convinced me that they were traceable primarily to intelligent and, at the outset at least, well enforced legislation regulating the practice of medicine, secured in 1887, mainly through the personal efforts of Drs. Perry H. Millard, Franklin Staples and James B. McGaughey. As a result of such legislation this was one of the first states to require a three years' graded course of study, and the standards were soon put so high that students from Minnesota attended only the best medical schools, and it naturally came about that few outsiders presented themselves for examination who did not come from similar institutions. This gave a high caste to the profession, and the state, being a new one, with little overcrowding, with the bulk of the profession made up of young and middle-aged men who had been subjected to high tests of qualification, and with the better compensation which was evident on every hand, it was easy to understand why the lack of organization for a long time did not result so disastrously as in the older states, or even in the newer ones in which the laws were less perfect or had been so administered as to have less elevating and protective value.

As an evidence of the correctness of these estimates of causes and effects, in recent years, coincident with the phenomenal increase of wealth and population, and especially of the urban development, vigilance in the enforcement of the law relaxed, with the result that quackery in every form and variety on the outside, and commercialism in the shape of contract practice and commissions on the inside, have made rapid and dangerous inroads on the profession. As if to emphasize the futility of high standards on the statute books for permanent protection without such an organization as will support and enforce them, the quack interests, finding the profession without the power of practical co-operation, have been able to dictate legislation to such an extent as greatly to strengthen their own hands and to discourage the friends and supporters of scientific medicine. The physicians were disposed to blame everybody but themselves for their defeats, but the history of it was but a repetition of the old story of the routing of the well-meaning, divided and tactless hosts of a great profession by the small but compact, well-disciplined and unscrupulous forces of quackery. With such an organization in every county as would make possible a union of all of the forces which should be at the constant command of the profession for the proper protection of its own and the public interests, including the State Board of Medical Examiners, the State Board of Health and the medical schools, under well selected and tactful leadership, all necessary legislation ought to be obtained within the next few years. To my mind it is especially important here, and in other states where it has not already been done, to have incorporated in the medical law a provision for the examination of the adherents of new or unusual systems of healing, now in existence or which may hereafter be discovered, that they may be taken care of without special legislation, and before they gain a sympathetic and noisy following. With this should go a plain, strong and practical revoking clause for dishonest professional claims and conduct, criminal abortions and addiction to the liquor or drug habit, which should be operated mainly in an educational and preventive way after ridding the state of the present crop of advertising charlatans. It is easy to see, however, that each year of delay in getting together and securing such legislation will greatly increase both the difficulties and the dangers.

As might have been expected, with such a personnel as I have described making up the bulk of its profession, Minnesota was one of the first states to attempt reorganization under the new plan. Through haste and misapprehension this attempt was abortive, the council and house of delegates features being left out entirely and a year lost. When this mistake was corrected, as a temporary and doubtful expedient, district societies, covering large areas and meeting at long intervals, were substituted for county societies over most of the state. Dr. Fullerton, chairman of the council, took the field actively, and although handicapped with such an imperfect system, greatly increased both the membership and interest and laid the foundation on which the complete organization can be built. I urged that county societies be formed within these districts in every county containing as many as four or five physicians, retaining the district organizations for a comparison of methods of work in the county societies composing them at an annual meeting held midway between the meetings of the state society. I am more and more convinced every day that a real organization of the profession in this country is only possible through the agency of county societies, and that the difficulties are less and the benefits greater and more easily obtained in small than in large counties. If doctors can only rid themselves of the delusion that numbers, noise, long papers and sonorous discussions are essential for a successful medical society, and that they are organized and exist for the purpose of bringing them together so frequently and in such a way that their differences will naturally harmonize themselves, and after that, for scientific improvement and for working out the various and important business and legislative problems so important to them, it will be easy to organize the profession in almost an ideal way.

No state which I have visited is more susceptible of such a complete organization than Minnesota, but nearly everything remains to be done. Unfortunately, few of the councilors have realized the importance and responsibilities of their positions as organizers and peacemakers, and have attempted to perform the little work they have undertaken by correspondence. The state society has generously proposed to pay them for their time and for all expenses incurred, and each of them should visit every county in his district by appointment once or twice before the next annual meeting, notifying all physicians of the time and place by personal letters, and securing the active co-operation of the leaders of the profession in each county in working up the meeting. It is only by such close personal work that effective organization can be accomplished, but it will be worth all that it costs many times over, and if the medical colleges will heed the request of the Portland session of the House of Delegates and give their future classes a practical course of instructions along business, ethical, legislative and other co-operative lines, it will never have to be done over again and the reform will be permanent. At the close of several of the meetings committees were appointed to formulate plans for the postgraduate courses and for carrying out other features of the practical work suggested by me. At Rochester, under the leadership of Dr. Mayo, arrangements were promptly made for such a scientific course in their society. With the facilities they have for carrying it on, a postgraduate course can be made of inestimable value to the local members, and, what is even far more important, it can and will be so conducted as to make it such an object lesson to the numerous visitors to that great medical center as will carry its benefits in time to every section of the country.

The work in Minnesota was very laborious and exacting on account of the widely separated meeting places, but it was relieved and made pleasant by the evident appreciation of the altruistic purposes of the American Medical Association in sending me to assist them and by a hospitality and cordiality which was as constant as it was delightful. I go next to North Dakota, and then on to Montana, Washington, Idaho, Oregon, California, Texas and Oklahoma, filling appointments which have already been made for me by the associations of those states, meeting and discussing local conditions and methods for improving, with the profession of some city, district or county almost every day, and reaching home in time for the Christmas holidays.

### California.

SOLANO COUNTY MEDICAL SOCIETY.—This society effected permanent organization on the standard plan at Vallejo August 31. Dr. H. O. Miller, Vallejo, presided, and Dr. Philip Mills Jones, San Francisco, secretary of the Medical Society of the State of California, addressed the meeting on the benefits of organization and detailed the plans and work of the state society and the affiliated county societies.

### North Dakota.

CASS COUNTY MEDICAL SOCIETY.—A number of the members of the Cass County Medical Society and physicians of Moorhead, Minn., met at Fargo September 19, when Dr. J. N. McCormack, Bowling Green, Ky., delivered an address on "Organization."

### Ohio.

HURON COUNTY MEDICAL SOCIETY.—With the aid of Dr. William E. Lower, Cleveland, councilor for the fifth district, this society was organized at Norwalk September 5. Dr. Thomas C. Martin, Cleveland, spoke on "The Advantages of Organization," and Dr. Clyde E. Ford of Cleveland on the "State Medical Journal." Dr. Daniel W. Loney, Norwalk, was elected president; Dr. Morton W. Bland, Bellevue, vice-president, and Dr. John A. Sipher, Norwalk, secretary and treasurer.

## *Society Proceedings*

### COMING MEETINGS.

Medical Society of Virginia, Norfolk, October 24-27.
Hawaiian Territorial Medical Society, Honolulu, November 4.
American Academy of Medicine, Chicago, November 9-10.

### AMERICAN PUBLIC HEALTH ASSOCIATION.

*Proceedings of the Twenty-third Annual Meeting, held in Boston, Sept. 25-29, 1905.*

(*Concluded from page 1190.*)

#### Further Experiments with Vaccine Virus.

DR. W. F. ELGIN, Glenolden, Pa., said that winter vaccine may be expected to remain active for 125 days. This period shortens as the weather gets warmer. A temperature of about 70 degrees hastens the destruction of virus, so that summer vaccine can only be expected to remain active for a short time.

Glycerinate virus immediately placed in cold storage not only remains active for a long period, but when removed after a storage of several months will stand practically the same conditions as to change of temperature as that noted in control virus removed from the animal at the time the stored virus is taken from cold storage. This will allow of the preparation of vaccine during the cold weather, and its storage for summer distribution; so that vaccine plants may close down during the extreme heat.

The virus contained in capillary tubes remains active practically as long as the same virus in bulk, while a slight deterioration is noted in the glycerinated vaccine on points.

The life of vaccine taken from the deeper skin layers, or that part of the vesicle remaining after the normal or usual vaccine tissue has been removed, is very nearly if not quite the same as that of the normal virus; while the bacteria are decidedly fewer in number and more restricted in character.

No sure method has been universally accepted which will secure both purity and potency in virus prepared for general distribution. Many laboratories, particularly those under state control in this country and abroad, have practically given up bacteriologic control as a routine procedure. It is a question how far we are justified in clearing vaccine of bacteria at the expense of its potency.

#### Danger of Tuberculosis Dissemination by Railway Travel Is Exaggerated.

DR. CHARLES P. DUDLEY, Altoona, Pa., stated that during the past few years the railroads have been called sharply to account for remissness in sanitary matters. He discussed the extent to which this criticism is justified, for example, as to the spread of tuberculosis. It is obvious that if the spread of tuberculosis is largely due to contact of the healthy with those who are affected, the railroads, under present conditions, can hardly be held responble, since there is no means by which ticket agents or conductors can be sure as to diagnosis, and to refuse transportation on an erroneous diagnosis would lead to serious trouble. If, on the other hand, the spread of tuberculosis is largely due to pulverized, dried sputum, the railroads may fairly be regarded as responsible, and may be required to take greater precautions. Careful studies seem to indicate that the dangers of infection from dried sputum on cars have been greatly magnified. As items pointing in this direction may be mentioned: First, the length of time of passengers on cars is small at the longest, while prolonged exposure seems to be agreed on as a marked characteristic in the acquisition of this disease; second, tuberculous sputum is extremely difficult to dry; third, even though artificially dried it is extremely difficult to pulverize; fourth, though artificially dried and pulverized, it is heavy, and does not readily remain suspended in the air; and, fifth, cars from their construction, afford very great advantages to the access of sunlight and air, which are more or less fatal to this form of disease germ. Furthermore, if cars are such a menace as has been supposed, it would seem that employes of the sleeping-car companies and of the railroad companies, whose occupation requires that they spend much time on the cars, would be largely affected. The statistics gathered at the last census, as reported by Dr. George M. Sternberg in his book, "Infection and Immunity," show that railroad men are less affected by tuberculosis than the average of persons of the whole country. Furthermore, information from the Pullman Company does not show that the colored porters who are supposed to be predisposed to tuberculosis, and who spend a large portion of their lives on sleeping cars, are more affected than others. The records of the Pennsylvania Railroad, in connection with its relief department, show that passenger conductors and brakemen are not as frequently affected with tuberculosis as are the freight conductors and brakemen. Again, bacteriologic examinations of the air from cars known to have transported tuberculous patients, the results of which have been recently published by Dr. J. J. Kinyoun, do not indicate any alarming prevalence of tubercle bacilli in these cars. Finally, experiments made for the purpose, as to the behavior of tuberculous sputum on carpets and plush, show that analogous material is less likely to become dry and to be pulverized and disseminated in the air, than if this material is on a hard, non-absorbent surface.

#### Car Sanitation.

DR. HENRY M. BRACKEN, Minneapolis, said that to advance car sanitation it is not only necessary to improve the methods of car construction, but to instruct railway employes in the proper care of cars. Special duties should be imposed on them as to ventilation, car cleanliness, etc. Their instructors should be medical men connected with railway companies and familiar with sanitary problems. He pointed out the dangers from spitting on the floors or furnishings of cars. He discussed car cleaning, and said more attention should be given to this subject. The drinking water for railway cars should be of unquestionable quality, distilled or equally pure, and should be kept out of reach of passengers, except as drawn from the faucet, should be stored in well-cleaned cans or coils, and iced with well-selected ice that has been handled in a cleanly manner. He advocated improvement in the toilet rooms of the day coaches.

#### The Restriction of Contagious Diseases in Cities.

DR. CHARLES V. CHAPIN, Superintendent of Public Health, Providence, R. I., said that modern municipal sanitary practice was first based on the filth thory of disease. During the

last twenty-five years it has been largely determined by the recognition of the contagiousness of the infectious diseases. Further practice will be modified by specific knowledge as to the etiology of each disease. The chief sanitary discovery of recent years is that unrecognised foci of infection are the principal factors in the spread of contagious disease. This is bound to modify present methods, rendering them less burdensome. Stringent measures can not stamp out disease. All that can be hoped for is to limit extension from the recognized cases. This can be done substantially as well by moderate means. No restriction of personal liberty is advisable in influenza, pneumonia, typhoid fever or cerebrospinal meningitis. In measles and whooping cough there should be some restriction of school attendance and the occasional closure of school. In scarlet fever and diphtheria the patient should be isolated for three or four weeks and other children in the family kept from school. Wage-earners should rarely be interfered with. The use of cultures to terminate isolation in diphtheria as ordinarily practiced is illogical. Hospital facilities are needed only for the poor. Official disinfection does more harm than good. When the above diseases appear for the first time in small places, or rather when rarer diseases appear in large cities, the most energetic measures are called for.

**Modification of Present Port Inspection.**

DR. A. H. DOTY, health officer, New York, pointed out the necessity for a change in the present method of quarantine inspection, which will insure a more thorough examination of passengers and crews. There should be closer observation for the detection of mild or ambulant cases. This type is commonly the cause of outbreaks, the origin of which are unknown, and which are frequently improperly attributed to infection by cargoes, clothing, etc. While five days may be regarded as the maximum period of incubation of yellow fever, the fact that a person has been five days away from an infected area should not permit him to pass quarantine without having his temperature taken and the use of other means to detect the presence of mild cases. This should also be applied to the examination of those held to complete the period of incubation of other diseases. Furthermore, the possibility of occasional cases having a longer period of incubation than that generally accepted must be remembered.

**Communicability of Cerebrospinal Meningitis and the Means of Controlling Its Spread.**

DRS. WILLIAM H. PARK AND CHARLES BOLDUAN, New York City, stated that out of fifteen hundred cases in New York City, two hundred were in direct contact with other cases, and many showed evidence of infection from other cases. These two hundred represented eighty-eight families. Bacteriologic examinations revealed that about half the cases of meningitis had abundant meningococci in the nasal cavity during the first two weeks of the disease, and that the nasal cavities of five attendants were badly infected. The conclusion is drawn that the meningococci are spread by the discharges from the nose and mouth of the sick and those in immediate contact with them.

**Method of Securing More Uniform Instruction and Co-operation in Health Work.**

There was a symposium on this subject. PROF. F. C. ROBINSON, Brunswick, Maine, and PROF. W. T. SEDGWICK, Boston, discussed educational co-operation with the general public in public health work. PROF. H. C. ERNST, Boston and DR. J. D. ADAMI, Montreal, spoke of graduate and under-graduate instruction in hygiene in universities and medical colleges. MR. W. D. FROST, Madison, discussed the teaching of hygiene in the public schools. DR. S. H. DURGIN, Boston, pointed out the present regulations and laws as to the qualifications and methods of appointment of executive and technical health officers, while DR. H. D. PEASE, Albany, emphasized the importance of sanitary conferences and schools of instruction for health officers.

**The Collection and Preservation of Samples of Sewage for Analysis.**

MR. STEPHEN D. GAGE and MR. GEORGE O. ADAMS, Massachusetts, stated that in collecting samples of sewage and the effluents of sewage filters for analysis, more representative samples would be obtained if each sample is the average of a number of small samples taken at short intervals. The preservative used must prevent chemical changes. Two preservatives which best fulfill these conditions are chloroform and carbon bisulphid. Both destroy the bacteria and prevent all bacteriolytic decomposition; both are sparingly soluble in water, and being heavier than water they do not evaporate rapidly, requiring small amounts to be used in each sample. Both are comparatively inexpensive, and neither interferes with any of the usual analytical methods.

DR. HAMILTON WRIGHT, beri-beri research commissioner of the London School of Tropical Medicine, read a paper on beriberi.

**Methods of Bacteriologic Examination of Milk.**

DR. FRANCIS H. SLACK, Boston, described the apparatus and methods in use at the Boston Board of Health Laboratory for collecting, plating, incubating and counting; also for direct examination of milk sediments and the microscopic estimate of the number of bacteria present, together with pus and streptococci determination. The methods of examination described are recommended as a system which has been reasonably successful in practice for city laboratory work, where quick reports are needed, as well as the accurate examination of large numbers of samples.

**Problems and Difficulties of Bacteriologic Diagnosis.**

MR. BENT R. RICKARDS, Boston, discussed some of the everyday problems and difficulties met with in making bacteriologic diagnoses. Each disease discussed was considered, first, in relation to any special points connected with the preparation of the specimen submitted; second, in regard to those problems which have to do with accuracy in diagnosis; and, third, with reference to results and their relation to the clinical aspect of the case.

**Longevity of Bacillus Typhosus in Surface Waters and Sewage.**

PROF. H. L. RUSSELL AND MR. C. A. FULLER, Madison, Wis., reported that from their experimental work it appears that in relatively pure water of a surface character the typhoid bacillus is capable of retaining its vitality for about eight days. The results of their experiments confirm and extend on a broader basis the data obtained in the investigations made on the Chicago Drainage Canal. They have been carried out under sufficiently diverse conditions to warrant the belief that the typhoid organism in natural sewage does not live as long as it will in relatively pure water.

---

## MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

*Thirty-first Annual Meeting, held at Indianapolis, Oct. 10-12, 1905.*

The President, DR. BRANSFORD LEWIS, St. Louis, in the Chair.

Addresses of welcome were delivered by Mayor John W. Holtzmann on behalf of Indianapolis, and by Dr. W. N. Wishard on behalf of the local profession, which were responded to by Dr. H. O. Walker, Detroit.

The scientific work was divided into two sections, medical and surgical.

**Nostrum Exposures Commended.**

The following preamble and resolution were unanimously adopted by the surgical section:

*Whereas*, The medical profession keenly realizes the great and increasing public evil, moral, mental and physical, arising out of the support given by the public press to the so-called patent medicine interests, leading to the pernicious practices of self-drugging, narcotic habituation, and alcoholic excess; be it

*Resolved*, That the Mississippi Valley Medical Association commends and frankly endorses the attitude adopted by *Collier's Weekly* and the *Ladies' Home Journal* in giving publicity in the articles by Samuel Hopkins Adams, Norman Hapgood, and Edward Bok, respectively, to the truthful exposure of the nefarious practices and unscrupulous methods of the so-called patent medicine concerns.

**Officers.**

The following preamble and resolution were unanimously President, Dr. J. Henry Carstens, Detroit; vice-presidents, Dr. Joseph Rilus Eastman, Indianapolis, and H. H. Grant,

Louisville, Ky.; secretary, Dr. Henry Enos Tuley, Louisville, Ky. (re-elected); treasurer, Dr. S. C. Stanton, Chicago (re-elected).

Hot Springs, Ark., was selected as the place for holding the next annual meeting.

### Surgical Dressing.

DR. CARL E. BLACK, Jacksonville, Ill., presented a preliminary report on the technic of the after-dressing of surgical cases. He pointed out briefly the principal elements necessary for the proper dressing of a wound, whether it be a surgical or an accidental wound. While the technic differs somewhat in different kinds of tumors, the fundamental principles are the same in all. Certain modifications must always be made to suit the individual case. Septic wounds should be so dressed that there is no opportunity for a further mixture of infection in the wound, nor any opportunity for the infectious material from the wound to in any way be scattered where it can come in contact with other wounds. These two points should always be kept prominently in mind by those undertaking the dressing of wounds.

DISCUSSION.

DR. O. H. ELBRECHT, St. Louis, said that the use of a standard size of dressings, tapes, etc., would lessen confusion on the part of the surgeon in going from one hospital to another to operate.

DR. MILES F. PORTER, Fort Wayne, Ind., said that the keynote of success in the management of surgical cases is system and simplicity. One should attempt to do away with the necessity of dressing wounds until they have healed in all cases where this is possible. There should be no stitches to remove in the ordinary aseptic wound, no matter where it is located, and in the ordinary treatment of septic cases the rule, as it prevails, makes necessary a great deal more subsequent dressing than is called for. The redressing of a wound should be looked on as an evil to be avoided, if possible.

### Curettage in Septic Cases.

DR. C. E. RUTH, Keokuk, Iowa, reported in detail four cases of puerperal sepsis which illustrated the dangers of curettage.

DISCUSSION.

DR. O. H. ELBRECHT thinks that many deaths are due to the curette being used in cases of septic uteri. It is just as criminal, in his opinion, to introduce a curette into a septic or infected uterus as it is a sound or curette for the purpose of producing criminal abortion. He mentioned a case in which a physician curetted a uterus contrary to his advice, and the next day the patient died. He mentioned two other cases of sapremia which terminated fatally from what he believes to be a curettement of the uterus.

DR. H. O. WALKER, Detroit, strongly condemned the indiscriminate use of intrauterine curettes and irrigators. Many deaths are undoubtedly due to their improper use.

DR. JOHN YOUNG BROWN said that the curette has an important function to fulfill. Where there are decomposing membranes or fragments of retained placenta the uterus should be cleaned out.

DR. HANNAH M. GRAHAM, Indianapolis, uses an applicator, around which cotton is wrapped, saturated with carbolic acid, and the débris left in the uterus is swabbed out. It is her practice, too, to use a fenestrated catheter as a drainage tube, through which peroxid of hydrogen is injected every two or three hours, by herself or the nurse, and she has had good success by this method.

DR. A. M. HAYDEN, Evansville, Ind., thinks that a physician called to see a patient whose uterus contains a broken-down fetus or fragments of placenta, and who fails to clean out the uterus is criminally negligent. He advocates placental forceps for removing debris without disturbing Nature's protection.

DR. THOMAS B. NOBLE, Indianapolis, defended the uterine curette. It is an instrument for prevention as well as cure. The proper way is to interpret the pathology that one has to contend with, remembering that the curette is a means to an end. If a woman is suffering from high temperature, rapid pulse, prostration, due to septic material in the uterus, which can be removed by mechanical means, the physician does her an injustice if he leaves her uterus alone, simply trusting to Nature to take care of it.

DR. G. FRANK LYDSTON, Chicago, said if one is called to see a woman who is suffering from general sapremia, who is in such a condition that it is evident dissolution is not far away if something is not done, if the history is such that material has been left in the uterus, and she is having a temperature of 105 degrees, he would certainly not treat such a woman surgically or provide drainage by way of the vagina, but would remove the septic material from the uterus. If this is not done the case is doomed, and many women in such a condition recover under proper intrauterine treatment.

DR. RUTH called attention to the failure to differentiate between the varieties of infection that one has to deal with. There is no danger from a careful curettement in a case of putrescent uterus in which a septicemia is not added to the intoxication of sapremia.

### Artificial Hyperemia in Surgery.

DR. ALEXANDER C. WIENER, Chicago, pointed out the indications for the Bier method in surgery, as follows: 1. Subacute mild inflammations of joints and soft tissues are rapidly relieved. 2. Acute purulent inflammations of soft tissues either on the extremities or the head can be relieved by this method. 3. Acute and subacute inflammation of joints and purulent arthritis; gonorrheal infections of joints, etc. In these cases the elastic bandage has to be applied in such a manner as to produce energetic venous stasis, without causing pain to the sufferer. In acute inflammations comparatively light constriction produces extensive hyperemia. This conclusively shows that the arterial blood is not diminished, but slackened. Cases were cited in which excellent results were obtained by the Bier method.

### Surgery of the Gallbladder and Its Ducts.

DR. H. O. WALKER, Detroit, related his experience with 185 cases on which he has operated. He quoted from a former paper written by him several years ago, adding that what he said then still obtains to-day. First, jaundice, which heretofore has been regarded as almost pathognomonic of the presence of gallstones, is present in only about 20 per cent. of all stone cases. Second, that pain in the region of the gall bladder does not by any means indicate the presence of gallstones, but is as often the result of a kinking of the cystic duct from lesions the result of one or more attacks of cholecystitis combined with pericholecystitis. Third, the passage of stones in the feces is not as common as was formerly supposed, for colics are rarely successful in passing a stone from the gall bladder. Fourth, empyema of the gall bladder is not always determined by palpation, for frequent attacks of cholecystitis tend to diminish the size of the gall-bladder. Fifth, tumors of the gall bladder without pain or jaundice indicate a simple dropsy, while a painful, distended gall bladder indicates empyema, and when accompanied by jaundice indicates constriction of the choledochus. Sixth, a hard, nodular, painful tumor of the gall bladder, with or without jaundice, is almost certain evidence of carcinoma. Seventh, obstruction of the choledochus, accompanied with inflammation and jaundice, quickly disappears after the passage of the stones into the papilla of the duodenum.

Cholelithiasis is of greater frequency than is supposed. Approximately every tenth individual has concretions in the gall bladder, yet only about one in twenty ever complains of their presence, so that quiet stones need no treatment. It is only the cholecystitis and cholangitis which make manifest the irritable presence of gallstones without demanding treatment, both medicinal and surgical.

The conditions that require operative intervention are: 1. An acute sero-purulent cholecystitis, and accompanying pericholecystitis. 2. Persistent and frequent pains due to adhesions between the gall bladder, intestines, stomach and omentum. 3. Chronic obstruction of the common duct. 4. Chronic empyema of the gall bladder and its accompanying accidents.

Cholecystectomy is undoubtedly advisable where the gall bladder has been subject to frequent attacks of inflammation, and where chronic septic conditions exist.

*(To be continued.)*

## MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

*Annual Meeting, held in Scranton, Sept. 26-28, 1905.*

*(Continued from page 1189.)*

### Acquired Hydrocephalus with Atrophic Bone Changes, Exophthalmus and Polyuria.

DR. THOMAS W. KAY, Scranton, exhibited a boy of 7 years who three years ago had scarlatina. Three years later there was vertigo and enlargement of the superior cervical and submaxillary gland, with subsequent loss of the teeth and softening of the bones of the head. Exophthalmos appeared eighteen months ago, and at present the eyes are too prominent for the use of glasses and have to be protected by a handkerchief. The lower jaw has lost its bone salts and the chin has disappeared. As much as 27 ounces of urine are passed at a time.

### Adaptation of the Public to the Prevention of Tuberculosis.

DR. HOWARD S. ANDERS, Philadelphia, said that there is greatly needed a general adaptation, especially by officialdom, representative bodies, landlordism and various big corporations, to the doctrine that no conditions are socially or morally permissible which foster the propagation of tuberculosis. Adaptation also calls for the avoidance of the extremist, the alarmist, and the irrational antagonist, and between these, the fatalist. The sanatorium movement was emphasized as the most far-reaching and efficient means of attacking the tuberculosis menace. Much, he said, might be accomplished for the public health were the street dirt removed at night and the dust during the day kept down by sprinkling. He advocated the installment of a cabinet officer at Washington at the head of a department of public health.

### Diagnosis of Incipient Pulmonary Tuberculosis.

DR. GEORGE W. NORRIS, Philadelphia, said that the diagnosis could not be based on any one symptom or physical sign, but must be made in the light of the whole complex. Careful consideration of the anamnesis is of the greatest importance. Before beginning the examination of the chest the patient should be instructed to breathe properly, and enlargement of the bronchial or cervical lymph nodes should always be looked for. Rapid pulse or slight evening rise of temperature, if persistent or inexplicable on other grounds, he regards as suggestive, especially if associated with loss of weight, diminished capacity for work, or cough. With the occurrence of any two of the last named symptoms for a protracted period, the physician should show cause why a diagnosis of tuberculosis should not be given. In the event of uncertainty the patient should be treated as if he had the disease.

### Sanatorium Treatment of Tuberculosis.

DR. GEORGE B. KALB, Erie, made a plea for the early diagnosis of tuberculosis, and urged that dependence be not put on the microscopic examination of sputum. He favored the establishment of three classes of institutions: 1, For incipient cases; 2, for advanced cases; 3, for far advanced cases.

### Outdoor Life versus Confinement in the Treatment of Bone Tuberculosis.

DR. H. AUGUSTUS WILSON, Philadelphia, detailed the results obtained at Atlantic City, Coney Island, Wellesley Hills, Blue Ridge Summit, Toronto and elsewhere. He has found that osseous tuberculosis does not demand the varied atmospheric conditions necessary in the treatment of phthisis; that sleeping in tents or shacks with the temperature almost at zero F. has not been injurious; that various operative and corrective measures require consideration in connection with outdoor life; that there has been general improvement in the health and strength, and that no condition has been found too serious for betterment.

DR. M. P. RAVENEL, Philadelphia, thought it the physician's duty to instruct his patients, his clergyman and his legislator in the truths concerning tuberculosis. Unless an early diagnosis is made and the patient becomes a non-bacillary expectorating individual, the disease in a community can never be eradicated. This education he believed as important as a cure. In treatment he would direct attention chiefly to rest, circulation and digestion. In the forced feeding of patients he warned against the danger of unclean milk.

DR. CHARLES A. E. CODMAN, Philadelphia, in giving milk and eggs has the yolks and whites beaten separately and then the whites poured on the yolks, with the addition of sugar, salt or a flavoring.

DR. GUTHRIE, Wilkesbarre, believed that local deposits of tuberculosis should, if possible, be subjected to surgical procedure.

DR. NORRIS said that in the wards of the Phipps Institute in Philadelphia the routine treatment for hemorrhage is to put the patient to bed, apply an ice-bag to the chest, give a hypodermic injection of morphia, and assure the patient that there is no immediate danger. Ergot is never given.

DR. RAVENEL varies the treatment for hemorrhage with the condition of the patient's blood pressure. He gives nitroglycerin as indicated.

### Address in Otology.

DR. MICHAEL V. BALL, Warren, gave a brief summary of the accomplishments of otology in the last four years.

### Present Treatment of Squint.

..DR. WILLIAM CAMPBELL POSEY, Philadelphia, said that all children were more or less predisposed to squint, dependent primarily on vicious optical conditions. The vision in the squinting eye rapidly deteriorates. Treatment was outlined as follows: 1,The improvement of the vision in the defective eye; 2, neutralization of the farsightedness and the lessening of the accommodative effort; and, 3, the strengthening of the nervous and muscular mechanism which controls the movements of the eyes, and the cultivation of the desire for binocular vision. Attempts to improve the vision should be inaugurated promptly, since improvement can not be secured in subjects over 6 years of age. He would prescribe glasses at the early age of 2 or 3 years, and at a later age the vision may be further improved by the use of the amblyoscope, a modified form of stereoscope. In certain cases he was hopeful of improvement only by tenotomy. The amblyoscopic exercises should be continued for a year or more subsequent to operation.

DR. S. D. RISLEY, Philadelphia, believes binocular vision to be a matter of experience; for example, an infant will reach out for an object, but its hands will never go directly toward the desired object until by experience it has learned where the object is and how to find it. This he mentioned as a species of muscular sense acquired by experience. In binocular vision, in like manner, the infant has to learn to use both eyes at the same time and converge on the object. He believed that anatomic anomalies account for the fact that one child readily acquires binocular vision while another child secures it only with the aid of optical appliances.

### Herpes Zoster Ophthalmicus.

DR. EDWARD STIEREN, Pittsburg, stated that his observation of six cases of the ophthalmic variety of the disease included two showing a wide disparity in the eruptive process and ocular involvement, and that the two might be considered classical illustrations of the extremes of herpetic eruption following the course of the fifth nerve. One patient suffered an enucleation, while in the other case a bleb observed on the limbus disappeared, leaving a decided scar and a slight patch of congestion which persisted for several months. In all his cases Dr. Stieren has been able to trace a history of exposure to cold or dampness after some unusual exercise with consequent fatigue in individuals of otherwise sedentary habits.

DR. ZENTMAYER, Philadelphia, cited a case complicated by the occurrence of ocular motor palsy and corneal ulcer in which the ulcer recovered promptly, but in which the palsy was of several years' duration.

DR. STIEREN thought the disease seemed to run a self-limited course and that there was a certain amount of immunity given a patient who had had the disease. Rather against the hypothesis that the disease is an acute infectious disease was the fact that seldom, if ever, is more than one case found in a household.

### The Mastoid Operation.

DR. EDWARD B. DENCH, New York City, believed that in 99 per cent. of mastoiditis the disease is secondary to an inflammation of the middle ear. The most characteristic symptom,

in his opinion, is tenderness on firm pressure over the mastoid process. He regards the prognosis as excellent. He has had but twenty deaths in 480 operations, and in none was death due to mastoid involvement. He described the operation in detail. The second incision, which extends horizontally backward from the middle of the curvilinear one, has rarely been necessary in his practice. Three possibilities of accident were enumerated: 1, Failure on the part of the operator to find the mastoid antrum; 2, injury to the lateral sinus; 3, injury to the facial nerve. Emphasis was placed on the fact that even in those cases perforating simultaneously through the internal table of the mastoid, operative technic should be the same as in a case which had not perforated the cortex. He allows the cavities to fill up by granulation.

### Mastoiditis—Its Importance in General Practice.

DR. S. MACCUEN SMITH, Philadelphia, gave a brief outline of the historical aspect of mastoiditis and then directed attention especially to its relation to general practice. A physical sign of the greatest diagnostic importance, he said, was the ominous bulging or drooping of the superior and posterior wall of the external auditory canal. The most urgent measure in the treatment of mastoiditis arising from acute tympanic disease he considers to be the early and free incision of the membrana tympani, especially when complicating infectious disease—that is, opening of the drum head during the stage of hyperemia and before the stage of pus formation has been reached. In the after treatment the canal is dried with a cotton wrapped probe and an impalpable powder is dusted on the walls of the canal.

DISCUSSION.

DR. TAYLOR, Wilkesbarre, referred to the infrequent employment of the backward incision by Dr. Dench, his own experience having been contrary to this. He believed it important to enlarge the field of operation for thorough investigation of the mastoid. He was glad that Dr. Smith referred to the pernicious idea held by some that a child would outgrow a "running ear," and the conception that it was dangerous to stop a discharge of the ear.

DR. KATZ W. BALDWIN, Philadelphia, said that in all cases of septic conditions of the nose and throat the teeth should be examined, and cited a case of a person aged 38 with an unerupted wisdom tooth which had caused mastoid abscess.

DR. J. H. MCKEE, Philadelphia, referring to the importance of examining the ear when cerebral symptoms were suspected, thought it far better to adopt the plan of Dr. Morse in the Boston City Hospital of making the examination of the ear a part of the routine examination of the child. Many obscure cases are cleared up in this manner. He said he had yet to see a case of pneumonia, middle ear disease or of typhoid in a child with middle ear disease in which there was not sufficient adenoid tissue to be considered pathologic. The importance of lumbar puncture in the presence of cerebellar complications of middle ear disease should also be remembered.

### A Plea for Early Diagnosis and Immediate Local Treatment in Disease of the Accessory Sinuses of the Nose.

DR. W. G. B. HARLAND, Philadelphia, called attention to the important part played by the middle turbinate in preventing free drainage, and cited cases showing how quickly relief followed active local treatment. Neuralgic pains of the face, puffiness of the cheek and mucopurulent discharge should always suggest sinus inflammation; in other cases pain, postnasal discharge, or the subjective perception of odor might be the only symptoms. He advocated rest in bed and hot moist applications, calomel and salts, phenacetin, quinin and atropin in acute conditions. Locally, reduction of turbinates with cocain, 4 per cent., and adrenalin, 1 to 5,000; nasal wash, removal of part or whole of middle turbinate, washing of antrum through inferior meatus or alveolus. The more threatening conditions could be referred to specialists; milder cases are treated with opiates and antineuralgics. All cases should receive active local treatment.

DR. PYFER, Norristown, said that the general practitioner did not realize that in every case of cold the sinuses were involved, and that the degree of headache confirmed the amount of sinus involvement. If sinus involvement is suspected, in addition to the internal medication, he would prescribe the use of a spray of adrenalin and cocain followed by an alkaline solution.

DR. RANDALL, Philadelphia, spoke against prescribing cocain. He uses it sparingly and prescribes it never. In the antrum cases, the pain being so habitually about the first and second molar, the nasal and sinus involvement is apt to be overlooked.

*(To be continued.)*

## Therapeutics

**[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns.]**

### Toxemia of Pregnancy.

McIlwraith, in the *Canadian Practitioner*, recommends the following treatment for these patients, based on the theory that the condition is due to toxemia and that elimination is the curative treatment.

1. If the patient be conscious, he gives calomel grains 5 at once, washed down with saturated solution of magnesium sulphate, 2 ounces. The patient is then anesthetized and given an injection of sterile normal saline, one pint beneath each breast, and at the same time the nurse gives an enema consisting of:

| | | |
|---|---|---|
| ℞. Magnes. sulph. | ℥i | 30 |
| Glycerini | ʒii | 60 |
| Aquæ | ʒiii | 90 |

This is given as high up in the bowel as possible. As the patient comes out of the anesthetic a hypodermic of morphin sulphate grain ½ (.03) is given. Chloral grains 30 (2.) per rectum, and morphin sulphate grain ¼ (.06) hypodermically are given alternately at two-hour intervals, as may be required, for convulsions or threatening symptoms. Not more than three grains of morphin should be given in twenty-four hours.

2. If the patient be unconscious, treatment is the same, except that the medicine can not be given by the mouth. This is as far as the treatment can be systematized, but varying conditions may lead the physician to change the treatment in each case. It has been noted on several occasions that the convulsions ceased and the other symptoms disappeared before the bowels started to move; this, the author thinks, is due to serum, and with it toxin, having been withdrawn from the general circulation into the bowel, and remaining there owing to failure of peristalsis. The glycerin enema usually excites peristalsis.

In addition to morphin and chloral, veratrum viride may prove of value in cases in which the pulse is full and of high tension given in doses of from 5 to 10 minims hypodermically t i d. (Nicholson, in the *British Medical Journal*, recommends thyroid extract to combat the pulse tension.) If all these methods fail delivery must be accomplished. The patient may do well for a few days without food, but water is necessary, and may be given by the bowel if the woman is unconscious. Of the use of chloroform to control convulsions the author states, "if a patient is having a series of convulsions, chloroform may be given to break the series, while elimination measures are being taken, but this should be its sole function. Its prolonged administration is exceedingly dangerous."

### Chronic Diarrhea.

Wilcox, in *American Medicine*, outlines the treatment of this condition as follows:

The therapeutics of this disease depends on its cause, since it is actually only a symptom. The author classifies the causes, each one of which is again subdivided into mechanical, nervous and hemic.

MECHANICAL.

The treatment of mechanical diarrheas is based on removing the cause of irritation. The dyspeptic form of mechanical irritation is best treated by a full dose of castor oil, which

will remove both the undigested food and the products of fermentation which cause the increased peristalsis. If there be proteid indigestion the process can be checked by resorcin, .30 gm. (6 gr.) four times daily, to which 1.25 c.c. (20 m.) of tincture of nux vomica should be added, if there is diminished motor function of the stomach. After a few days the faulty digestion may be corrected by three drops of strong nitrohydrochloric acid or 10 drops of dilute hydrochloric acid, with 3 mg. (1/20 gr.) of strychnin sulphate, given in the midst of each meal. Pepsin may be serviceable.

As a rule in amylaceous indigestion there is constipation. Occasionally there is diarrhea which, if present, is best corrected by thorough mastication of starchy foods, and limitation of fluids with their ingestion. The author discountenances the use of sodium bicarbonate in all gastric and most intestinal indigestion and recommends the use of magnesia ponderosa in 10 gr. (.65 gm.) doses after meals.

NERVOUS.

When diarrhea is caused by emotion attention must be given to the mental instability. The associated symptoms are often marked and require special attention. Permanent cure can come only from moral suasion accompanied by removal of all sources of mental irritation. Temporarily this symptom is checked by the following prescription:

| | | |
|---|---|---|
| ℞. Ammonii bromidi | gr. xv | 1 |
| Spiritus ammonii aromat. | ℥i | 4 |

M. Sig.: Give at one dose.

The neurotic forms due to hysteria, neurasthenia, migraine, and the climacteric, require careful treatment, based on the underlying cause. The best results are obtained from the persistent use of the bromids, preferably strontium bromid (free from barium salts) .4 gm. (60 to 90 gr.) daily. After three days this may be diminished in quantity, and the solution of potassium arsenite commenced. Three drops are given thrice daily, and the dose is increased one drop a day until slight untoward symptoms supervene.

The reflex diarrheas from cold are almost invariably relieved by the daily use of a morning cold bath. The tub bath should commence with the temperature of 88 F., and be taken cooler by a degree or so each morning until 68 F. or even 58 F. is reached. A five-minute bath followed by brisk rubbing with a turkish towel results in a vigorous reaction, and the morning bath soon becomes not only a therapeutic necessity, but a luxury as well. In addition, an abdominal bandage made of flannel should be constantly warm.

HEMIC.

Of the hemic diarrheas the uremic is perhaps the most striking. In this form opium is emphatically contraindicated. The proper method of dealing with this condition is the administration of a high intestinal irrigation with normal saline, in quantity a gallon, of the temperature of from 112 to 116 F., through a rectal tube inserted at least twelve inches; the reservoir should be elevated about three feet. If chronic nephritis is predominating the sodium chlorid should be replaced by sodium bicarbonate. Intestinal irrigation will free the intestine from irritating contents, will enable the kidneys to perform their function more properly, and will also stimulate the heart.

Malarial diarrhea is best treated by arsenic, methylene blue, or the following combination:

| | | |
|---|---|---|
| ℞. Ext. ergotæ | gr. ii | 13 |
| Berberin sulph. | gr. i | 06 |
| Piperin | gr. ss | 03 |

M. Ft. capsule No. i. Sig.: One such capsule four times a day.

By far the best diet in chronic diarrhea is milk. This should be given between meals and at bedtime and must not be taken cold. For the meals, tea, poached eggs on toast, rare grilled or broiled steak or lamb chops, fresh chopped beef, with 2 c.c. (30 m.) of hydrochloric acid to each 60 gm. (2 oz.) meat soups, with thoroughly boiled rice, toast instead of bread, soft-boiled eggs, with half a bottle of Burgundy of good vintage, will take the patient well toward the time when a regular mixed diet may be resumed. To be avoided are fruits, raw or sour, cooked and sweetened succulent vegetables, foods leaving much residue and sugar.

Of improper methods of treatment may be cited opium. This is only admissible when the alimentary canal has been thoroughly emptied, to check excessive peristalsis. It should be given hypodermatically as morphin, in substantial doses, and not repeated. Astringents, as experience has taught us, when introduced into the alimentary canal, do not astringe; they are even likely to irritate.

Syphilis.

Kilbane, in the *Medical Record*, recommends the hypodermic use of the salicylates of mercury in the treatment of every case of syphilis in which the administration of mercury is indicated for a period of time. The author states that he has given it a very considerable trial, both in dispensary work and in private practice, and claims for it many advantages. He further states that as a rule the patient makes no objection to this method of treatment if its advantages are clearly explained, and complains little of pain after the first two or three treatments. The author recommends the following technic:

The dose to begin with is usually three-fourths of a grain (.04). The interval between treatments is four days. The dose and the length of the intervals between the treatments are gradually increased until the patient is taking one and one-half grains (.09) weekly. The full dose of a 10 per cent. preparation, therefore, is 15 minims. If the patient has been taking mercury in some other manner a larger dose may be used at the start. In some cases a dose larger than a grain and a half may be used to combat special symptoms, but in these cases the more frequent use of a soluble salt of mercury will probably give better results. Potassium iodid can be administered by mouth at the same time.

An ordinary hypodermic syringe does very well. The needle should be at least one and a quarter inches in length and about 18 caliber. Needles of smaller caliber are impracticable because the mercury will clog in them. It is essential that the needle be very sharp. In private practice he has found it advisable to sterilize the needle immediately after use, and to keep needle, syringe and forceps for handling in an alkaline strongly antiseptic solution ready for immediate use when required. The gluteal region is the usual site of injection, alternating from side to side. The muscles of the back or the calf of the leg may be used if desired. The buttock is cleaned, as is usual for hypodermic injection.

The patient's leg is placed so as to relax the gluteal muscles, and he is instructed not to jump when the injection is made. The syringe is filled with mercury, the needle is attached and air bubbles excluded. The needle is entered firmly and quickly into the muscles as far as the guard, care being taken to avoid injuring the periosteum. The relations of the anatomic structures in the vicinity should be borne in mind. The mercury is then driven very gently and slowly into the muscles, the needle quickly withdrawn, and the part massaged with a vigorous rotary motion for one minute. This massage prevents any hemorrhage from the puncture hole and lessens very materially the probability of any soreness or lameness following.

## Medicolegal

**Free Pasteur Treatment for Needy Persons.**—No. 68 of the Laws of Pennsylvania of 1905 provides that in each and every county of the state it shall be the duty of the proper officers of the several poor-districts, in such counties, to provide all needy persons, in their said several districts, who may be bitten by dogs suffering from hydrophobia or rabies, with the proper medical attention to prevent the development of the disease in the person or persons so bitten, which medical attention may include the treatment known as the Pasteur treatment.

**To Secure Purer Fruit Syrups.**—No. 217 of the Laws of Pennsylvania of 1905 provides that any person, firm or corporate body who shall, by himself, herself or themselves, or by his, her or their agents or servants, manufacture, sell, ship, consign, offer for sale or expose for sale, or have in possession with intent to sell, any fruit syrup which contains formal-

dehyd, sulphurous acid or sulphites, boric acid or borates, salicylic acid or salicylates, saccharin, dulcin, glucin, betanaphthol, abrastol, asaprol, fluorids, fluborates, fluosilicates or other fluorin compounds; also any coal-tar dyes, sulphate of copper, or any other coloring matter injurious to health, or any preservatives or their compounds injurious to health, shall be deemed guilty of a misdemeanor, etc.

**To Have State Hospital for the Criminal Insane.**—No. 247 of the Laws of Pennsylvania of 1905 provides for a commission of six persons to select a site and build an institution for the treatment and care of the criminal insane of the state. The tract of land selected shall be suitable for the purpose of the hospital, the land to be good arable land, well adapted to the preservation of the health, the occupation and maintenance of the inmates of the hospital, with an adequate supply of good water, and large facilities for drainage from the hospital buildings. The buildings shall be of the best design for the construction of such institution, and without expensive architectural adornment or unduly large or costly administrative accommodations. The board of trustees shall appoint a competent and skillful physician, of special training and experience in the treatment and care of the insane, who shall be superintendent, and shall have charge, supervision and direction of the hospital, both professionally and otherwise, his salary to be fixed by the board of trustees. Whenever the hospital shall have sufficient accommodations for the proper care of a larger number of insane patients than have been committed to it, the committee on lunacy of the state board of charities shall have authority to transfer to it from any other state hospital for the insane, giving the preference in all cases to those patients having known criminal tendencies.

**Rules and Regulations to Be Made by Health Departments.**—No. 165 of the Laws of Pennsylvania of 1905 provides that all departments of health of the cities of the first class of that commonwealth shall have full power, and shall make, immediately after this act shall become a law, such rules and regulations, which, in their judgment, may be proper and necessary, for the protection of the public health, and amend or alter the same, from the diseases known as cholera, yellow, malarial, typhoid, typhus, scarlet, puerperal and relapsing fevers, smallpox (variola or varioloid), chicken-pox (varicella), diphtheria and membraneous croups, cerebrospinal meningitis, measles, mumps, whooping-cough, tuberculosis (in any of its diverse forms), pneumonia, erysipelas, plague (bubonic), trachoma, leprosy, tetanus, glanders, hydrophobia (rabies) and anthrax. That said rules and regulations shall cover and include: (*a*) The reports to be made by physicians or other persons, in attendance on any person afflicted with any of the said diseases, to said health authorities. (*b*) The quarantining and disinfecting of persons and premises, and the placarding of notices. (*c*) The treatment or disposal of infected bedding, clothing or other articles. (*d*) The care and burial of the bodies of persons who may have died from any of the said diseases, fixing the limit of time for burial, the methods to be used, the attendance of persons, and the style of advertising the funeral. (*e*) The disinfection of conveyances used in the burial of persons who may have died from said diseases, or which may have been used by a person afflicted with any of said diseases, or person who may have been in contact with the same. (*f*) The admission and attendance of persons at public or private schools, hospitals and asylums, or any other public or private educational or charitable institutions, and the compulsory vaccination and revaccination of inmates thereof, and of persons attending the same, or employed therein as physicians, teachers, nurses, or in any other capacity. All rules and regulations and all changes and amendments, when adopted, shall be printed and distributed for public use; copies of the same shall be filed with the state board of health. Copies shall be prepared and furnished to every educational institution, public or private, and to every physician and undertaker, within the jurisdiction of the health authorities promulgating the same.

**Health Provisions in Labor Law.**—No. 226 of the Laws of Pennsylvania of 1905 provides, among other things, that no child under 14 years of age shall be employed in any establishment. No minor under 16, and no female, shall be employed in any establishment for a longer period than sixty hours in any one week, nor for a longer period than twelve hours in any one day. Every person, firm or corporation employing girls or adult women, in any establishment, shall provide suitable seats for their use, and shall permit such use when the employes are not necessarily engaged in active duties. Every person, firm or corporation employing males and females in the same establishment, shall provide for such employes suitable and proper wash and dressing-rooms, and water-closets for males and females; and the water-closets, wash and dressing-rooms used by females shall not adjoin those used by males, but shall be built entirely away from them, and shall be properly screened and ventilated; and all water-closets shall at all times be kept in a clean and sanitary condition. Exhaust fans of sufficient power, or other sufficient devices, shall be provided for the purpose of carrying off poisonous fumes and gases, and dust from emery-wheels, grindstones and other machinery creating dust. The owner, agent, lessee or other person having charge or managerial control of any establishment shall provide or cause to be provided not less than 250 cubic feet of air space for each and every person in every work-room in said establishment, where persons are employed, and shall provide that all work-rooms, hall and stairways in said establishment be kept in a clean and sanitary condition and properly lighted. No person, firm or corporation engaged in the manufacture or sale of clothing or other wearing apparel, cigars or cigarettes, shall contract for the manufacture of same where to be made in any kitchen, living room or bed room in any tenement or dwelling-house, except where the persons contracting to make any of said articles are members of the family residing in such house, and shall have furnished a certificate from the board of health of the city or town that the house is free from any infectious or contagious disease. All persons, firms and corporations engaged in the manufacture or baking of bread, cakes, crackers, pastry, pretzels or macaroni, for public sale, shall keep their room or rooms for baking, mixing, storing or sale of flour or other grain products separate and apart from any sleeping room, water-closet, urinal, defective drain or sewer pipe, and shall not permit the harboring of any domestic animal therein. The floors of all baking, mixing, storing and salesrooms shall be kept clean and tightly joined and free from crevices, and the walls and ceilings shall be painted, kalsomined or whitewashed as often as twice in each year, and oftener if, in the opinion of the chief factory inspector or his deputy, the safety of the employes or the public shall require.

## Current Medical Literature

### AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

**American Medicine, Philadelphia.**

*October 7.*

1 *Apparently Distinct and Hitherto Undescribed Type of Parasite in Pernicious Malaria. H. M. Smith, San Francisco.
2 Study of Relationship Between the Arterial Hypertension and the Indicanuria in Nephritis. H. A. Houghton, Bayside, L. I., New York.
3 *Peripheral Phlebosclerosis. C. F. Martin and J. C. Meakins, Montreal.
4 Insomnia and Its Treatment. (To be continued.) J. S. Christison, Chicago.
5 Cervical Rib with Resulting Gangrene of the Fingers. W. W. Babcock, Philadelphia.
6 *After-Treatment of Pulmonary Tuberculosis. J. A. Wilder, Denver, Colo.
7 *The State and Federal Public Health Services. J. S. Fulton, Baltimore.

1. **New Type of Parasite in Pernicious Malaria.**—Smith reports the finding in the blood of 119 cases of malaria of a parasite so peculiar and distinct from any previously described as to render it probable that this form is a distinct type of the parasite of pernicious malaria. The parasites are small hyaline discs of an oval spindle form, non-pigmented and lying in the protoplasm of the red blood corpuscles. They have a very sharply defined outline, are highly refractive, and in the center

of each form is a small round dot of hemoglobin. Their short diameters vary from 1/5 to 1/10 the diameter of the red blood corpuscle, their long diameters being about twice as great. On account of their spindle shape, he designates them "spindle forms." They have no amœboid motion, but move by revolving on their long axis and by swinging around on their short axis, using one end as a fixed point. This motion is the most peculiar characteristic of the parasite. They stain with great difficulty and then only the periphery to a slight extent. No development of any nature has been observed in these parasites, and no forms besides these "spindle forms" were ever discovered in the blood before death or in the blood and organs after death in the four fatal cases.

3. **Phlebosclerosis.**—Martin and Meakins find that this condition exists commonly quite apart from diseased arteries and that it is extremely common in peripheral veins, especially those of the lower extremities. Their findings and conclusions may be epitomized thus: (1) Peripheral sclerosis is very common, existing in nearly 60 per cent. of patients examined by them in hospital. (2) It is much more common in young people than is generally supposed, especially in the saphena veins. (3) It is frequently present without any arteriosclerosis. (4) Sections show no signs of marked inflammation or degeneration. Proliferation and hypertrophy of intima and media are the chief pathologic pictures. (5) The usual causes of arteriosclerosis are absent. (6) The condition is allied to a process of functional hyperplasia rather than to chronic inflammation and is not associated, as a rule, with injury, though with prolonged strain from movement, posture and changed blood tension.

6. **After-treatment of Pulmonary Tuberculosis.**—Wilder emphasizes the great tendency toward relapse and chronicity of tuberculous ulceration in the lungs as well as in other parts, e. g., the skin and bones, and thinks there is a tendency at the present time to take too optimistic a view of its curability. The disease is practically always more or less advanced from the pathologic standpoint before it is recognized clinically. Although some patients have such good resistance that they recover in spite of unfavorable surroundings and methods of living, the majority require a continuous life for years rather than months under the most favorable hygienic and meteorologic conditions before there is assurance that their lesions are permanently healed. Placing the patient under proper conditions for a short time often causes the disease to become quiescent, but this is only the first step in the cure of a disease that, on account of the nature and severity of the pathologic lesions, is essentially of long duration. In an analysis of 100 cases of pulmonary tuberculosis that have been at least quiescent for from one to ten years, the average period of quiescence being three years nine months, he finds that at the present time 87 are either quiescent or cured and able to work. Twenty-five of the 100 cases have at some time relapsed. Thirteen of these patients have relapsed and recovered, eight have relapsed and died, and four are at present chronic invalids. One patient died from cancer of the stomach without relapse of his pulmonary trouble. Of these cases 67 were originally classified as incipient and 33 as moderately advanced or advanced. The period of quiescence before working or returning home varies from no time to 36 months, the average being eight months.

7. **State and Federal Public Health Services.**—Fulton discusses the probable influence on state boards of health of the federal law under which the U. S. Public Health and Marine-Hospital Service is now organized. This law, he thinks, will serve the purpose which medical men have long had in mind in advancing a national board of health. Powers and privileges not heretofore accorded to other departments of state government are by this act of Congress conferred on state boards of health. Each year the surgeon-general must call a conference of state boards of health, and he must call an extraordinary conference whenever any five state boards of health unite in a request to the U. S. Public Health Service. The most serviceable feature of the new law is the annual conference, as the orderly and steady progress, which may be made from year to year by concerted efforts, is vastly better than the reforms brought about by the drastic methods of the extraordinary or emergency conference. By co-operation with the federal bureau it is possible to bring a majority of state boards up to good standards of efficiency and to advance the standards steadily. Hitherto there have been no standards. It is the real function of the annual conference to wipe out the spectacle of confusion and discord, of high and constant efficiency in one state, alternating worth and worthlessness in another state, and unvarying inefficiency in a third state. The tendency to exempt boards of health from political spoliation is growing stronger in this country. The people begin to learn that the hygienist is a highly specialized man of science. Boards of health are less commonly regarded as useful only in times of emergency. They have found their routine, and their daily tasks interest the public. The people themselves are now active in some of the problems of special hygiene, and the official hygienist must prove his professional fitness in the company of enthusiastic amateurs. The people demand the suppression of tuberculosis, and the enthusiasm of the voluntary associations now engaged in the American movement against tuberculosis is alarming, because it brings the hygienist into intimate relations with the sociologists, who have a body of useful knowledge about the disease and certain new ideas about its prophylaxis. These new allies will certainly discover our poverty in recorded data, in which they are strong, and can not fail to note the delinquency of boards of health. Strengthened by such co-operation, the forward movement of American hygiene is definitely assured. The kind and degree of success desired may not be fully attained, but the awakening of the people to the possibilities of preventive medicine means, in official life at least, the crack of doom for amateur sanitarians.

### Medical Record, New York.

*October 7.*

8 *Choice of Method in Operating on the Hypertrophied Prostate. W. Meyer, New York.
9 Importance of Differentiation in the Use of Electric Modalities. A. D. Rockwell, New York.
10 *Anatomy and Associated Pathologic Conditions of the Rectum and Colon, with Mechanical Methods of Treatment. F. B. Turck, Chicago.
11 *Case of Combined Extrauterine and Intrauterine Pregnancy. H. T. Miller, Springfield, Ohio.
12 *Asthenopia Due to Latent Hyperphoria. G. De. W. Hallet, New York.

8. **Choice of Operation for Hypertrophied Prostate.**—Meyer advocates the use of the three methods in general use, perineal and suprapubic prostatectomy and galvano-caustic prostatectomy, according as each method fits the case to be treated. Meyer has performed Bottini's operation on fifty-nine patients, perineal prostatectomy nine times, and the suprapubic operation twenty-two times. The only deaths by the perineal method were from the anesthetic in one case, and in a patient almost moribund at the time of operation. Of the twenty-two suprapubic operations, seventeen patients with benign hypertrophy are living, two died of causes not due to the operation; three with cancerous hypertrophy died of causes due to the nature of the disease. Meyer believes that it is possible to cut the grooves with the galvanocautery both deep and wide; that a median lobe is a contraindication to the Bottini operation, if it is possible to do an enucleation; the cystoscope is of value in explaining the conditions at the neck; Bottini's operation, even when done twice, does not prevent a prostatectomy, should that become necessary; but, being a purely intravesical operation, it has many failures, and sometimes entails tedious after-treatment. If radical operation is refused it should be done. There is little choice between the perineal and suprapubic routes. In the perineal operation there is a rapid return to normal control of the urine, and leakage over the abdomen is not present. The suprapubic operation can be done in less time. Cystoscopy should always be performed before Bottini's operation, as the hypertrophy may be entirely intravesical. In advanced carcinoma Bottini's operation is to be preferred, since all the cancerous metastases can not be removed. A gland palpable by rectum and rising not far from the sphincter muscle can best be attacked from below; when higher up and projecting into the bladder it should be operated on from above. When soft and composed of small lobes, it should be operated on from below; when complicated by a large calculus, from above. The preservation of sexual power is important, and the suprapubic method retains it in the largest number of cases.

**10. Treatment of Atony of Rectum and Colon.**—Turek advises the use of massage and stimulation of the atonic intestine by the use of small rubber bags inserted in the rectum and sigmoid flexure and inflated with air. The inflation can be used steadily for the desired amount of time, or the bag may be alternately relaxed and inflated again, thus producing a kind of massage of the intestine. The abdominal circulation is also an important factor in atony of the intestine, and massage by inflation stimulates the circulation. Drugs, surgery, general gymnastics, and the various mechanical methods of treatment have all failed in curing atony. The injection of air confined in the rubber bag places the amount of distension to be used under the operator's control. It may be made intermittent. Hemorrhoids, ulcers, proctitis, all are benefited, as well as prolapse of the bowel, and various associated uterine conditions.

**11. Combined Extrauterine and Intrauterine Pregnancy.**—Miller's patient, aged 40, one year ago developed symptoms which indicated an extrauterine pregnancy. On opening the abdomen a cyst-like tumor having a pedicle containing the right Fallopian tube was removed. The cavity of the sac was distended with dark-colored blood and contained the remnants of a placenta and degenerated fetus. The size of the uterus gave rise to the suspicion of an intrauterine pregnancy, which was verified on the second day after the operation by the spontaneous expulsion of a perfectly formed four months' fetus. The patient made an uneventful recovery.

**12. Asthenopia Due to Latent Hyperphoria.**—Hallett describes a case of severe and agonizing neuralgic headache which was permanently relieved after correction of prisms by the existing hyperphoria. The headache, which had persisted for fifteen years, refused to yield to all other treatment, and at times was severe enough to confine the patient to a dark room for several days.

## Medical News, New York.

*October 7.*

13 *Consideration of Late Hereditary Syphilis. R. R. Campbell, Chicago.
14. *Preliminary Report on the Spirochete of Syphilis. A. Fanoni, New York.
15 *Sanatorium Provision with Industrial Opportunities for Indigent Consumptives. H. M. King and H. B. Neagle, Liberty, N. Y.
16 *Ultimate Results After the Bloodless Reposition of the Congenital Hip-Joint Dislocation. F. Mueller, Chicago.
17 Spinal Hemorrhage, Some of Its General Phases. W. Browning, Brooklyn, N. Y.
18 Vesical Fistula. H. H. Purinton, Lewiston, Maine.

**13. Late Hereditary Syphilis.**—Campbell discusses the question whether or not hereditary syphilis can manifest itself for the first time some years after birth by the presence of such late lesions as occur in the acquired form, and with the total absence of the triad symptoms, Hutchinson's teeth, interstitial keratitis and a particular form of deafness known as labyrinthine or central deafness.

**14. Spirochaeta of Syphilis.**—Fanoni examined material obtained from five cases of primary and secondary syphilis, including chancers, condylomata papules and mucous patches, and found the spirochete of syphilis in all.

**15. Sanatorium Provision with Industrial Opportunities.**—King and Neagle show that every attempt to organize even moderately large numbers of phthisical patients into self-supporting communities has been uniformly unsuccessful. As the result of personal experience and inquiries made, they conclude that a sanatorium should be on a sound financial basis, independent of its earning capacity, before entering industrial fields. It can not safely rely on financial returns from its industrial features, since the latter are fully as apt to increase as to decrease the expense of administration. If industrial features are introduced, as wide a range of occupations as possible should be at command in order to meet individual requirements in both sexes, and suitable provisions should be made for permitting very light work and short hours to start with in all cases. No patient should be permitted to do work of any kind until sufficient time has relapsed after his admission to establish his physical ability. Medical supervision should be unremitting throughout the patient's sanatorium residence, and allowance in time limit of residence should be made for the relapses which inevitably occur whenever any great number of consumptives is employed.

**16. Bloodless Reposition of Congenital Hip-joint Dislocation.**—Mueller publishes the results obtained by Lorenz in 33 cases of congenital hip-joint dislocation by means of bloodless reposition to show that it is the best method of treatment of congenital dislocation of the hip and that Lorenz's promise of 50 per cent. anatomic cures is not too optimistic.

## Boston Medical and Surgical Journal.

*October 5.*

19 *Papilloma of the Larynx in Children. J. P. Clark, Boston.
20 *Muscle Transference, with the Report of Two Cases. E. H. Bradford, Boston.
21 Vertigo of Aural Causation. C. J. Blake, Boston.
22 Ménière Symptom-Complex. W. A. Lecompte, Boston.
23 *Ununited Fracture of the Humerus Treated by the Bolt Method—Failure of Union—Subsequent Successful Wiring. H. W. Jones, St. Louis, Mo.

**19. Papilloma of Larynx in Children.**—According to Clark, papilloma of the larynx in children is a very serious condition. The best method of treatment in all cases is tracheotomy and non-interference with the growth. If, under this treatment, it still persists after an age when the child can be treated as an adult, it has probably lost its activity of reproduction and attempts at its removal may be made. Clark cites 14 cases, 9 boys and 5 girls. One case dated from birth. In another case the symptoms began at the age of 3 months. Five other patients were 2 years old or under when they first showed evidence of laryngeal trouble. Of the remainder, one was 3 years old, one 4, two 5, one 6 and two 8 years old when the first symptoms appeared. The time elapsing between the appearance of the first symptoms and application for treatment varied from four months to four years and nine months. In the majority this period was from one to three years. In one case the symptoms began to appear after an attack of measles, in one after whooping cough and in one after grippe. Treatment without previous tracheotomy was attempted in 4 cases. One of these patients died under the operation, one was lost sight of, one operation was successful, and one patient, after several successful operations, required tracheotomy for a sudden attack of dyspnea during an operation. Preliminary tracheotomy was done in the 10 remaining cases. Of these latter, 4 patients died; 3 of bronchopneumonia, and one of suffocation after a difficult second tracheotomy. One of those dying of bronchopneumonia had bronchitis at the time of the operation, which was necessitated on account of severe dyspnea, and one died so long after tracheotomy (eight months) that death can not be directly attributed to that operation. One patient who died of suffocation after a very difficult second tracheotomy necessitated by the recurrence of the growth, illustrates the importance of not removing the tube until there is no vestige of papilloma or until the child is old enough to be treated as an adult.

**20. Muscle Transference.**—Bradford cites six cases in support of the contention that silk suture can be made to serve as a tendon mechanically, and may also be the basis of the organization of new strong fibrous tissue, thus creating a new tendon. It is necessary, however, that the muscle which is to be cut should not be left in a relaxed condition. If a strong muscle is inserted into a weak muscle it is essential not only that the insertion should be strong, but that the tendon into which the insertion is made should be so disorganized by paralysis as to become stretched when subjected to use. The transferred muscle should be attached in such a way that its contraction can be functionally effective, and it should be inserted into such a point as will render its contractions efficient.

**23. Treatment of Ununited Fractures.**—Although not advocating the abolition of the mortise joint as unsurgical, Jones believes that if union of bone occurs by simply apposing bone ends, much time and labor is wasted by carefully mortising bones together, especially as the latter proceeding is open to two risks—breaking of the wires during application of the dressings, and subsequent necrosis from pressure or tension. Jones considers the employment of a steel or silver bolt undesirable.

## New York Medical Journal.

*October 7.*

24 Introductory Address to the Course of Study Delivered Before the Medical School of McGill University, Montreal, September 19, 1905. A. Jacobi, New York.

27 Midtarsal Valgus, or Knock Ankle. E. H. Bradford, Boston.
28 Principles in Surgical Diagnosis. J. D. Bryant, New York.
27 True Nature of Functional Nervous Diseases. W. H. Thomson, New York.
28 Shock and Hemorrhage as Causes of Death Following Abdominal Operations. C. C. Barrows, New York.
29 Practical Value of Some Old Remedies—Scopolamin Hydrobromid. J. V. Shoemaker, Philadelphia.
30 *Preliminary Notice of a Modification of the Guaiac Test for Blood. I. S.Wile, New York.

**30. Modification of Guaiac Test for Blood.**—Wile describes his test as follows: To equal parts of chloroform and turpentine tincture of guaiac (U. S. P.) is added, a drop at a time, until slight milkiness appears. To one or two cubic centimeters of this reagent the suspected solution is added and the mixture is thoroughly shaken. In the presence of blood the chloroform-turpentine-guaiac solution becomes blue. The color takes a few seconds to manifest itself, but gradually deepens until all the hemoglobin has entered into the reaction. The color then gradually becomes lighter and slowly disappears. This chloroform modification gives a clearly cut reaction, and is more delicate than the simple peroxid of hydrogen and guaiac reaction. The solution, if kept in an amber-colored container, will keep for several days without losing its power to give the reaction. Instead of using tincture of guaiac, a 10 per cent. solution of resin of guaiac in glacial acetic acid may be substituted.

### Lancet-Clinic, Cincinnati.

*October 7.*

31 *Diagnosis and Operation for Gallstones. W. D. Haggard, Nashville, Tenn.
32 Whooping Cough. N. I. Frald, Williamstown, Ky.
33 *Syphilitic Manifestations in the Nose and Pharynx. P. T. Vaughan, Hot Springs, Ark.
34 Chronic Interstitial Nephritis. R. A. Bate, Louisville.
35 X-Ray in the Treatment of Fractures. D. Eve, Nashville, Tenn.

31.—See abstract in The Journal, Oct. 31, 1903, page 1106.

33. Id.—Oct. 24, 1903, p. 1041.

### St. Louis Medical Review.

*October 7.*

36 Conservative Treatment of Various Diseased Conditions of the Stomach and Intestines. C. A. L. Reed, Cincinnati.

### Journal of Association of Military Surgeons of the United States, Carlisle, Pa.

*September.*

38 Sanitary Study of Culebra as a Naval Base. H. E. Ames, U. S. N.
39 Military Medical Education. J. V. R. Hoff, U. S. A.
40 Acute Rheumatic Fever as Treated by the O'Connor Surgical Treatment for Acute Articular Rheumatism. J. B. Dennis, U. S. N.
42 Perforating Gunshot Wounds of the Stomach. C. B. Mitchell, U. S. A.
43 Tropical Dysentery. A. T. Short, Manila, P. I., U. S. A.

*October.*

44 *Observations on the Treatment of Fractures. J. P. Warbasse, New York.
45 Relations of the Medical Department to the Health of Armies. H. G. Hathaway, U. S. M. C.
46 First Aid to the Wounded in Naval Battles. J. Redondo, Madrid, Spain.
47 Chest Wound by a Krag Rifle at Fifty Yards. G. H. Halberstadt, Pottsville, Pa.
48 Construction and Equipment of Military Hospitals for Contagious Diseases. J. Simonin, U. S. N.
49 Clinical Aspect of Cavite Fever. R. C. Persons, U. S. N.
50 Medical Officer in Campaign. P. J. H. Farrell, Chicago.
51 Case of Stokes-Adams Disease. J. Brow, Nashville, Tenn.
52 An Hour with Dr. Thomas Trotter, Physician to the Fleet. J. M. Browne, U. S. N.

**44. Treatment of Fractures.**—Warbasse says that the first and most important thing in the treatment of a fracture is that the surgeon should have a mental picture before him of the conditions of the bone which he is treating. He believes that the old methods of diagnosis are still the best, and that there is no short cut to the acquirement of skill. Practice and experience are still the best teachers. He deplores the fact that the young practitioners are blunting their diagnostic senses by a too great dependence on the *x*-rays, which in most cases, Warbasse thinks, should be used not to make the diagnosis, but to confirm it. If this were done, surgeons would be better equipped for work in places where the *x*-rays is not available. He calls attention to the diagnostic significance of crepitus, the importance of which, he thinks, is often overrated, while local tenderness and pain are apt to be overlooked. There are certain obstacles which may prevent the easy and satisfactory reduction of a fracture, and of these the chief are muscular contraction and pain, both of which are overcome by general anesthesia. Warbasse condemns the method of correcting displacements by tiring out contracted muscles by making continuous extension against their contractile force, and states that, in his opinion, immediate and complete reduction is the proper procedure. The surgeon should not rest until the fractured bone is in the position in which he wishes it to heal. He believes that fomentations of lead, opium or other similar preparations have little or no place in the treatment of fractures. The best treatment is the correction of the deformity. When a point of bone lies close to the skin and threatens to perforate it a compressing pad should be placed not over the threatening point, but over the bone a short distance away. If a fracture involves a joint or is in close proximity to the tendon sheaths, another element of importance is introduced. If the joint is kept immobilized too long, the plastic material becomes adherent to the opposite bone surface. The amount of this plastic substance is dependent on the degree of traumatism; in other words, on the degree of separation and mobility of the fragments. Motion of the joint immediately after the injury increases the amount of exudate. Too prolonged immobilization of the joint threatens ankylosis. After from ten days to two weeks, when traumatic reaction has subsided, passive motion should be instituted. Warbasse believes that more harm is done by the anxiety to secure firm bony union than by the too early employment of passive motion. In dressing a fracture of the lower extremity, he states that the patient should be laid on a flat, unyielding surface and should not be allowed to watch the operation. He describes, in detail, the usual method of applying a plaster cast, and says that ordinarily too much bandage is applied. In applying a cast the important thing is that the inside be free from irregularities and that the pressure be even throughout. A properly applied cast gives a sense of comfort and support. A cast that is not comfortable should not be left on. Warbasse concludes his article by stating that the methods we now have at our command for accurately determining the condition of broken bones and for the correction of displacements and the relief of complications places modern surgery in a position to be satisfied with nothing but good results in the treatment of fractures.

### Journal Michigan State Medical Society, Detroit.

*September.*

53 *Venereal Prophylaxis. A. R. Carrier, Detroit.
54 Compound Fractures with Crushing of the Soft Parts. W. T. Dodge, Big Rapids.
55 *New Method for the Withdrawal of Pleural Effusions. W. M. Donald and R. E. Mercer, Detroit.
56 Ruptured Tubal Pregnancy, with Postoperative Obstruction of the Bowels. W. K. West, Calumet.
57 Abdominal Versus Vaginal Section for Intra-abdominal Conditions. W. Bishop, Bay City.

**53. Venereal Prophylaxis.**—Carrier calls attention to the importance of preventing the spreading of venereal diseases, and states that marriage of individuals suffering from any venereal affection should be prohibited by law. He concludes his article with the following statements: Venereal diseases exist in every community to such an extent that an imperative demand is made for prophylaxis. While legal restrictions are of immense value, their enforcement at the present time is impossible. The laws regarding the issuing of the marriage license should take account of venereal diseases. Venereal diseases should be regarded as contagious and reportable to health boards. Hospital accommodation should be furnished for those suffering from venereal diseases. Efforts for the present should be along the line of education in the family, in the schools, and by literature and lectures to the public. Medical pessimism in this matter of prophylaxis must be eliminated.

**55. Method for the Withdrawal of Pleural Effusions.**—Donald and Mercer have devised an apparatus for the removal of pleural effusions. The apparatus is very simple. It consists of two wide-mouthed bottles, stoppered by either rubber or cork, through which are inserted tubes of metal or glass which connect with an ordinary fountain syringe tube. The bottles for accurate work may be graduates so that the amount of fluid withdrawn and the amount of air reinserted can be measured. A bottle has three tubes running through the cork; one extending nearly to the bottom is connected to a similar one in

bottle B with a rubber tube about four feet in length; the other two extend just through the cork, one of them being connected to a short glass tube filled with sterile absorbent cotton, and the other with a tube leading to the needle. Bottle B has two tubes; one, as in bottle A, reaching nearly to the bottom, and the other, a short one, may be used to withdraw the overflow, or by the attachment of an aspirator pump to obtain greater suction pressure on the other bottle, that is, on the fluid which is being aspirated. This, however, is rarely necessary. All the pressure that is desired can be secured by lowering the second bottle and so increasing the syphon pressure. The bulb is convenient when filling bottles, but must be detached when the instrument is used. The tubes leading to the needle and air filter and between A and B are controlled by wire clips. Clips from fountain syringes, a couple of large empty tablet bottles, three or four glass medicine tubes, some rubber syringe tubing, and an old antitoxin syringe constitute the paraphernalia necessary for the manufacture of this apparatus by a physician himself. The rubber corks make more perfect joints, and so constitute a more perfect apparatus, but the authors have used the other and more simple form of apparatus and have found it to work satisfactorily. The following directions for use are given: Fill both bottles slightly more than half full of sterile water; insert the tubes until the water fills bottle A with the three tubes and flows from the aspirating needle, then close clip on that tube and lower bottle B, open clip on air filter, and leave it open until bottle A is about two-thirds full of filtered air, then close clip on air tube, and the apparatus is ready for use. Insert the needle in the selected spot on the affected side, open clip on the needle tube, and the pleuritic fluid will immediately flow into bottle A and over into bottle B. When about eight ounces, or 250 c.c., have been withdrawn, raise bottle B and the water will flow back into bottle A, forcing the filtered air in it through the needle into the pleural cavity. By repeating the process, opening the air filter, and refilling bottle A as necessary, the fluid can be withdrawn and replaced by an equal measured quantity of filtered or sterilized air. If it is desired, the cotton in the tube can be impregnated with formaldehyd and the pleural cavity can be filled up with this form of air. As formaldehyd is decidedly irritating in its qualities, only a very small quantity of the medicament must be introduced. Bottle B can be emptied as filled by shutting off the flow from bottle A and pouring out the fluid contained in it; or it can be allowed to run out through the overflow tube on B into another bottle or vessel. It is considered hardly necessary to replace the fluid with an exactly equal amount of sterilized air, although a liberal amount should be introduced in order to procure a thorough emptying of the pleural cavity. After that has been done, the operator can use his own discretion as to whether he will allow the air to remain in the pleural cavity or will withdraw a small portion of it. The advantages of the operation can be summed up as follows: 1. All the fluid can be withdrawn at once. 2. There is no pain and no distress, except from the introduction of the needle, through the whole operation. 3. The lung is splinted by the cushion of sterilized air and is permitted to expand only very slowly. 4. The air pressure prevents the leaking of fluid through the cells back into the pleural cavity and the reaccumulation of the fluid there. 5. The apparatus can be improvised by any physician or can be manufactured at a very low figure by any instrument manufacturer. 6. It is believed to be especially adapted to cases of old effusion in which the withdrawal has been postponed for a long time, and cases in which there is a tendency toward the reaccumulation of the fluid.

## St. Paul Medical Journal.

*September.*

58 Difficulties of Exact Diagnosis Encountered in Cases of Intra-abdominal Tumors. C. O. Thienhaus, Milwaukee, Wis.
59 Perinephritic Abscesses in Children. G. R. Curran, Mankato.
60 Considerations on Eye Strain and the Neurologists. E. J. Brown, Minneapolis.
61 Strangulated Hernia. H. Heitz, Crookston.
62 Notes on Empyema. F. G. Lawrence, Stillwater.
63 Bladder Exstrophy. R. C. Dugan, Eyota.
64 *Present State of Our Knowledge Concerning the Therapeutic Value of the X-Ray. B. Foster, St. Paul.
65 *Carbolic Acid in Modern Surgery. J. C. Stewart, Minneapolis.
66 Preventable Deformities. E. S. Geist, Minneapolis.

*October.*

67 *Medical Organization. W. W. Taylor, Kalispell, Mont.
68 *Pneumonia Complicating Surgical Operations. J. L. Rothrock, St. Paul.
69 Diaphragmatic Hernia. W. A. Dennis, St. Paul.
70 Dysmenorrhea. E. A. Hensel, Alexandria, Minn.
71 Syphilis of the Liver and Its Operative Treatment. A. MacLaren, St. Paul.
72 *State Board of Medical Examiners—A Criticism. A. Sweeney, St. Paul.
73 Case of Typhoid, with Comment on the Relational Pathology of the Disease. H. A. Tomlinson, St. Peter.
74 Tubercular Kidney Disease. M. C. Millet, Rochester.

64. **Therapeutic Value of X-Ray.**—Foster details his experience with the *x*-ray in the treatment of tuberculosis of the skin and of glands, acne, sycosis, eczema, pruritus, psoriasis, and exophthalmic goiter. He is of the opinion that deep-seated malignant disease should never be treated by the *x*-ray until the resources of surgery have either been exhausted or refused by the patient. Patients suffering from inoperable malignant disease should be given the benefits of *x*-ray treatment because it usually is followed by improvement, with the possibility of cure.

65. **Carbolic Acid in Surgery.**—Stewart calls attention to the uses of carbolic acid, i. e., the liquidified crystals, in the cure of hydrocele and other cystic processes by the injection of small amounts of the pure acid without the use of alcohol. The acid is also of service in various chronic serous inflammations of the bursa and tendon sheaths. Its use as a sterilizing agent for instruments and septic wounds is also referred to. Stewart says that in all acute suppurative processes the course of the disease may be shortened and extension averted by free incision, followed by the application of carbolic acid and alcohol. In all tubercular softenings the use of carbolic acid and alcohol after evacuation of a cavity permits of the closure of the cavity without establishing drainage, thus expediting healing. Many other uses of the acid are mentioned by Stewart in the hope that the profession will again give to this remedy the place it deserves as a therapeutic agent.

67. **Medical Organization.**—As evils demanding the organization of the medical profession Taylor mentions patent medicines, quacks, the various sects and fads and healers of all sort, the existence of too many cheap, superficial, ill-equipped diploma mills, called colleges, which are yearly turning out hordes of graduates who are not properly qualified, the so-called contract or club practice, and the encroachments of other organizations. All these evils, he considers, may be eradicated by a perfect organization. The objects to be gained by organization are: 1. To protect the public from all those who profess or advertise to treat or to cure mental or physical infirmities, or to sell remedies for those conditions, and are not properly qualified to do so. 2. To secure uniform legislation to keep the field properly belonging to the medical profession free from intruders. 3. To secure high uniform standards for the regulation of practice in the various states, and to see that these laws are enforced. 4. To check evil tendencies and pernicious practices among physicians. 5. To elevate the requirements of medical education so that the numerous small, poorly equipped and inefficient medical schools shall be wiped out. 6. To stimulate and to foster a desire for scientific research and medical advancement in the profession. 7. To promote and to establish public health relations. 8. To promote a professional, fraternal and friendly feeling among physicians by more intimate contact, frequent meetings and social intercourse. 9. To increase revenues and to establish resources for the needs of professional advancement. The history of medical organization and the condition of the Montana State Association are also discussed, as well as the duties and functions of state organizations. Taylor feels that state societies do not stand close enough to the county societies and other affiliated societies, and suggests ways and means for accomplishing the desired results.

68. **Pneumonia Complicating Surgical Operations.**—Rothrock reviews the literature relating to this condition and cites cases. He states that as preventive measure, it should be a fixed rule that no patient who has at the time an acute coryza, tonsillitis or bronchitis should be given an anesthetic, except in case of absolute necessity. Not only is it desirable under such circumstances to avoid the irritant effect of the

vapor of the anesthetic, but under such conditions there is likely to be an increased virulence of the micro-organisms in the air passages. Ether should be given in the least possible concentration, and, to avoid aspiration of the secretions of the mouth, the patient's head should be kept low and turned to one side, in order to allow the secretions to flow out of the mouth. Previous to the administration of the anesthetic the mouth should receive attention and the teeth should be carefully cleansed, after which an antiseptic mouth wash should be liberally used. The stomach should be empty, and in case of operation on that organ, lavage should precede the operation. If necessary to use chloroform in the presence of gas or lamp light, the room should be well ventilated. In case of weak circulation, it is very desirable to prevent hypostatic congestion. Such patients should have their position frequently changed, and as soon as possible should be raised to the half-sitting posture. The importance of meteorism as a factor in hypostatic congestion should not be lost sight of. Distention of the stomach embarrasses the heart's action by pressure and also encroaches upon the lower lobes of the lungs, preventing their full expansion. It should be relieved by re-establishment of intestinal peristalsis as early as possible after the first twenty-four hours following the operation. Following Czerny's suggestion, the patient should be urged to expand the lungs fully, even though the effort is painful, to further aid in the prevention of hypostasis.

72. See abstract in THE JOURNAL, July 29, 1905, p. 350.

### Chicago Medical Recorder.

*September.*

75 Vaginal Cesarean Section. J. B. De Lee, Chicago.
76 Skiagraphic Revelations in Rachitic Deformities of the Legs. W. Blanchard, Chicago.
77 *The Bartlett (Boston) Machine for the Reduction of Congenital Dislocations at the Hip. J. Ridlon, Chicago.
78 *An Attempt to Utilize the Electric Conductivity of the Urine for Clinical Purposes. G. Kollecher and L. E. Schmidt, Chicago.
79 Testing the Electric Conductivity of Fluids, with Special Reference to Urine. B. C. Corbin, Chicago.
80 Meningitis. J. W. Van Derslice, Chicago.
81 Fibroid Tumors of the Uterus; Their Surgical Treatment. F. H. Martin, Chicago.
82 Case of Aortic Insufficiency. R. M. Ladova, Chicago.

77. **Congenital Dislocation of the Hip.**—Ridlon discusses the use of the Bartlett machine for the reduction of congenital dislocations of the hip. The machine consists of an iron framework bolted to a table. The patient's hips rest on the framework, with an adjustable saddle between the legs for fixative counter traction. Below (back of) each hip are strong pins, or pegs, and at each side of the hips are similar pins or pegs made adjustable by set screws; to these pins or pegs may be attached a device giving motion in abduction, adduction, flexion, extension and rotation, that carries a long traction rod. The traction is made by the conventional windlass device below the foot acting on a strap that has been passed around a padded boot on the patient's ankle. The device for motion in all directions at the hip is the original and interesting part of the machine. Bartlett calls it an "eccentric cam." A solid cylinder, with a hole near its periphery, is passed on over the pin or peg; this by a removable wrench gives an eccentric movement to press the head of the femur inward, or add to the downward pull. Around the cylinder passes a collar; this gives abduction or adduction. Attached to the collar is a hinge joint, giving flexion and extension. From this joint passes a pin that plugs into the end of the extension bar, giving rotation motion. Above the first cylinder, when placed on the pin at the side of the hip, is a second solid cylinder set in the same eccentric manner as the first and surrounded by a collar carrying the "deflector," which is worked by a handle. With the wrench on the cylinder and the handle on the deflector pressure can be made downward, inward or upward (forward), or in all directions at the same time against the greater trochanter and neck of the femur. Ridlon believes that this machine is a good and useful appliance, but the fact that it is patented and the terms demanded by the inventor, prohibit its extensive use. The use of the machine on patients who have relapsed into dorsal, anterior, supracotyloid, subpinous, or any possible position does not seem to give as satisfactory results as when used in virgin cases. It is, like all other operative procedures, more difficult when one has tried and failed by some other method, and in patients who have been partially operated on and in those who have been allowed to relapse through lack of proper after treatment.

78.—See abstract in THE JOURNAL, May 6, 1905, page 1483.

### Pennsylvania Medical Journal, Athens, Pa.

*September.*

83 Medical Organization Helpful in Promoting the Social Status of the Physician. C. McIntire, Easton.
84 *Remarks on Physical Diagnosis. 1. Transmanual Auscultation. 2. Ulnar Palpation. D. Riesman, Philadelphia.
85 *Overlapping the Aponeuroses in the Closure of Wounds of the Abdominal Wall. C. P. Noble, Philadelphia.
86 *Diagnosis and Treatment of Appendicitis. H. D. Beyea, Philadelphia.
87 One Hundred Consecutive Abdominal Sections in Hospital Practice Without Mortality. F. F. Simpson, Pittsburg.
88 Changes in the County Society. A. B. Hirsh, Philadelphia.
89 Diagnostic Value of Glycogenic Degeneration of Leucocytes. J. H. Bennett, York.
90 Diagnosis of Gallstone Disease. J. D. Singley, Pittsburg.

84.—See abstract in THE JOURNAL, Oct. 22, 1904, page 1249.

85. Id.—Oct. 29, 1904, page 1330.

86. **Appendicitis.**—Beyea directs attention to the value of routine abdominal auscultation as a means of determining the absence or presence of peritoneal infection in acute appendicitis, and also describes a method of abdominal drainage applicable in certain suppurative cases, and a modification of the operative technic which facilitates the operation, shortens its duration, and lessens the danger of peritoneal infection. He says that if the clinician will auscultate, preferably with the thickness of a towel separating the naked ear from the abdominal wall, over the healthy abdomen of several individuals, he will note, occurring at irregular intervals of two, five or ten seconds, the characteristic normal, soft, small, peristaltic sounds. With practice, and subjected to a greater or less variation recognized within the normal, his ear will become more and more familiar with the normal sounds until a distinct degree of accuracy is obtained. With the extent and intensity of peritoneal infection the sounds will occur at longer intervals, of from a half minute to a minute or longer, and their character will be changed from a soft murmur to a more pronounced gaseous sound or the sound of fluid or gas suddenly passing an obstruction. In the case where general peritonitis is present, no sound will be heard or only a single sound after a long interval. When the peritonitis is localized to an area the frequency of sounds, in most cases, is generally diminished, particularly over the affected area. Beyea recommends the special form of rubber covered gauze Mikulicz abdominal drain for application in certain of the cases of periappendicular suppuration devised by Dr. Charles B. Penrose. It is composed of a gauze bag six or seven inches in length and from an inch to an inch and a half in diameter when distended. Attached to the closed end of the bag is a silk ligature. Within the bag are placed side by side three or four gauze wicks, each composed of a few layers of gauze folded into a wick. The gauze bag is covered by an envelope of very thin rubber, the rubber bag being a condom, the closed end of which has been cut off. The gauze bag containing the wicks of gauze should extend a short distance beyond the rubber envelope as is shown in the illustration. The gauze portion of the drain is sterilized with the dressings, the rubber envelope by boiling in water. The ligature is attached for the purpose of assisting in the removal of the drain, traction being made on that portion in contact with the area to be drained. The gauze wicks should be placed rather loosely in, just filling, the bag. Beyea's modification of Dawbarn's technic is carried out by employing a specially made hemostatic forceps. The instrument is of the general shape of the small-sized Kelly curved hemostatic forceps. The biting or contact surfaces of the blades are made with two shallow furrows and elevations, corrugations, running lengthwise. The forceps are further made so that when closed, fixed at the first notch, the last half-inch is perfectly round and gradually tapers to a small blunt point. The technic is identical with that described by Dawbarn up to the point of removing the appendix, i. e., the mesoappendix is ligated and cut to the wall of the appendix, and the purse-

string suture is introduced through the walls of the cecum and is made ready to be tied. The curved forceps described are then made to grasp the appendix at a point about a half-inch from its base. The appendix is then cut away flush with the upper surface of the forceps. Then, catching the near-by peritoneal surface of the cecum with rat-toothed forceps, the grasp of the curved forceps is loosened, but still grasping the center of the stump (closing the opening into the cecum), it is turned to an angle parallel with the opening in the appendix. With the forceps in this position the stump end is inverted into the cecum, the instrument's grasp is easily loosened and the instrument removed, while the purse-string suture is securely tied by an assistant. A running silk suture placed over the position of the purse-string completes the operation.

### Indiana Medical Journal, Indianapolis, Ind.
*September.*

91 *Unilateral Syringomyelia in a Child. L. H. Herbert, Indianapolis.
92 Footwear and Its Influence on Flatfoot. E. D. Clark, Indianapolis.
93 Hospitals of Paris and Their Clinical Opportunities. J. W. Sluss, Indianapolis.
94 Treatment of Fracture of the Lower Jaw. J. H. Oliver, Indianapolis.
95 Surgical Pathology. G. W. Crile, Cleveland.

**91. Unilateral Syringomyelia.**—Herbert reports the case of a child 5 years old that presented symptoms of unilateral syringomyelia, as well as spontaneous necrosis of four toes which ended in self amputation. The child had been healthy until 3 years of age, at which time there appeared on the third right toe a painless panaritium, in the progress of which a piece of bone became separated and fell off. After about three months spontaneous healing of the bone process took place with the loss of this toe. Later a similar process occurred in the second, fourth and fifth toes. The right leg, especially the right foot, exhibited marked disturbances of sensibility. There was a dissassociation anesthesia, trophic changes and muscular atrophies, all pointing toward syringomyelia.

### Wisconsin Medical Journal, Milwaukee.
*August.*

96 Diagnosis of Rupture of the Middle Meningeal Artery. C. H. Lamon, Milwaukee.
97 *Personality of Medical Abortions. W. E. Fairchild, Green Bay.
98 *Present Status of the Surgical Treatment of Undescended Testis. C. M. Echols, Appleton.
99 *Clinical Aspects of Diabetes. C. J. Combs, Oshkosh.
100 Acute Diarrhoea of Children. C. D. Boyd, Kaukauna.

97.—See abstract in THE JOURNAL, June 24, 1905, page 2003.

98 and 99. Id.—Page 2004.

### The Laryngoscope, St. Louis, Mo.
*July.*

101 Meningitis; Its Symptomatology, Diagnosis and Treatment. E. Mac. Smith, Philadelphia.
102 Symptomatology, Diagnosis and Treatment of Encephalitis and Brain Abscess. F. L. Jack, Boston, Mass.
103 Symptomatology, Diagnosis and Treatment of Sigmoid Sinus Thrombosis. F. McKernon, New York.
105 Pathologic Findings of the Intracranial Complications of Middle Ear Disease. T. J. Harris, New York.
106 Facial Asymmetry as a Possible Cause of Deformity of the Nasal Septum. H. L. Swain, New Haven, Conn.
107 Unusual Development of the Frontal Sinuses. E. C. Ellett, Memphis, Tenn.
108 Tuberculosis Localised in the Third Tonsil. C. S. Means, Columbus, Ohio.
109 Foreign Body Swallowed by a Child Seventeen Weeks Old; Case of So-called Hairy Tongue. E. H. Johnston, Baltimore, Md.
110 Papilloma of the Lingual Tonsil. Id.
111 Epithelioma of the Faucial Tonsil. Id.

### University of Pennsylvania Medical Bulletin, Philadelphia.
*July-August.*

112 Motor Area of the Human Cerebrum, Its Positions and Subdivisions, with Discussion of the Surgery of This Area. C. K. Mills and C. H. Frazier, Philadelphia.
113 Occasional Clinical Resemblance between Caries of the Vertebræ and Lambothoracic Syringomyelia, and the Location Within the Spinal Cord of the Fibers for the Sensations of Pain and Temperature. W. G. Spiller, Philadelphia.
114 Case of Amyotrophic Lateral Sclerosis in which the Symptoms Were Unilateral and Ascending. C. B. Potts, Philadelphia.
115 Case of Tumor of the Left First and Second Frontal Convolutions with Motor Agraphia as Its Chief Localizing Symptom; Successful Removal of the Tumor. J. W. McConnell, Philadelphia.
116 Study of Contractures in Organic Nervous Diseases and Their Treatment. T. H. Weisenburg, Philadelphia.
117 Difficulty of Diagnosticating Between Tabes and Cerebrospinal Syphilis. C. D. Camp, Philadelphia.
118 Effect of Intraperitoneal Injections of Leech Extract on the Coagulation of Exudate. L. Loeb.

### Colorado Medicine.
*August.*

119 Arteriosclerosis Ending in Cardiac Insufficiency and Acute Glosso-Labiolaryngeal Paralysis. M. Haven, Denver.
120 Carlsbad "Kur." C. K. Fleming, Denver.

### Medical Herald, St. Joseph, Mo.
*August.*

121 Drainage in Acute, Diffuse Septic Peritonitis. V. Knott, Sioux City, Iowa.
122 Plea for the Anesthetic Specialist. D. G. Wilson, Kansas City, Mo.
123 Treatment of Inguinal Hernia. P. E. Sawyer, Sioux City, Iowa.
124 Renal Affections Simulating Abdominal and Pelvic Diseases. J. Block, Kansas City.

### Fort Wayne Medical Journal-Magazine.
*August.*

125 Treatment of Chronic Constipation in the Infant. S. D. Beavers, Decatur, Ind.
126 Modification of Milk in Infant Feeding. L. P. Drayer, Ft. Wayne.
127 Injuries of the Elbow Joint. H. A. Duenning, Ft. Wayne.

### Journal of Medical Research, Boston, Mass.
*August.*

128 Bacteriolytic Power of Immune Serum and the Theory of Complement Diversion. R. H. Buxton, New York.
129 Neuroglia Framework of the Cerebellum in Cases of Marginal Sclerosis. E. E. Southard, Boston.
130 Harvard Embryologic Collection. C. S. Minot, Boston.
131 Relation of the Index of Alkalinity to the Production of Diphtheria Toxin. A. P. Hitchens, Glenolden, Pa.
132 General Septicemia. C. W. Duval and P. A. Lewis, Boston.
133 Enzymes in Tumors. B. H. Buxton and P. Shaffer, New York.

## FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

### British Medical Journal.
*September 23.*

1 *Diagnosis and Treatment of Cancer of the Uterus. Dr. Wertheim. H. A. Kelly, C. Lockyer, S. M. Keith, M. Scharlieb, J. Campbell, L. B. Aldrich-Blake, H. Briggs, F. J. McCann and others.
2 High Range of Normal Temperature and Pulse Throughout the Puerperium. E. H. Tweedy.
3 *Treatment of Cervical Cancer in the Last Two Months of Pregnancy. T. Wilson.
4 Influence of the Presence of Pus in the Female Urethra on the Progress of Gynæcologic and Obstetrical Cases. J. Campbell.
5 Removal of a Tumor from a Hermaphrodite. H. Corby.
6 *Complications and Degenerations of Uterine Fibromyomata. S. J. M. Cameron.
7 Treatment of Albuminuria and Eclampsia Occurring in Pregnancy. R. Boxall, H. Spencer, E. H. Tweedy, J. W. Byers, J. Campbell, T. Wilson, A. N. Holmes, J. I. Parsons and others.
8 Case of Elephantiasis of the Vulva in Association with Elephantiasis of the Right Lower Limb. E. J. Maclean.
9 *Further Report on a New Operation for Prolapsus Uteri. J. I. Parsons.

**1. Cancer of the Uterus.**—Since the autumn of 1898 Wertheim has operated in all cases of carcinoma affecting the cervix and portio vaginalis by the abdominal route in such a way that by freeing the ureters and separating the bladder and rectum he has removed the cancerous uterus, together with a great deal of the surrounding cellular tissue and lymph glands. The operation, with which all surgeons are familiar, is described in detail. Wertheim considers extensive vaginal operations more difficult than extensive abdominal ones, and believes that there is no difference between the mortality of the two operations. In spite of all skill and technic, the vaginal operation does not permit of so much of the parametrium being removed as does the abdominal, nor does it permit of the removal of the glands which lie on the iliac vessels.

**3. Cancer of the Cervix in the Last Two Months of Pregnancy.**—Wilson reports two cases of cancer of the cervix complicating pregnancy in which vaginal Cesarean section was performed. In the first case the patient was a woman, aged 32, and the operation was performed at the end of the eighth month. When first examined, a pedunculated growth was observed attached to the posterior lip of the cervix; this growth was removed under anesthesia and the posterior lip of the cervix was curetted. One week later the uterus and its contents were removed. A transverse incision was made through the anterior attachment of the vagina to the cervix, and the bladder was pushed upward; the anterior wall of the cervix was divided in the middle line, the edges of the incision were pulled down by volsella on either side, the bladder was pushed further upward, and the median incision prolonged for about

six inches. Strong silk sutures were passed on either side of the upper part of the incision to serve as guides, and the vesicella were removed. By bimanual manipulation the head was pressed into the pelvic brim; the membranes were then ruptured, the forceps were applied to the head, and the child delivered, the cord being immediately clamped and divided. The uterus was then again drawn down by the strong silk sutures that had been applied for the purpose, and without waiting to deliver the placenta, the median incision was continued until, with the help of traction from below and pressure by an assistant from above, the uterus was delivered. Forceps were applied to the broad ligament on either side and to the posterior vagino-peritoneal attachment, the tissues being divided successively as the forceps were applied. After the uterus had been removed in this way the forceps were allowed to remain, a long strip of iodoform gauze being introduced into the bottom of Douglas' pouch and another being packed round between the bundle of forceps and the wall of the vagina. The child was livid when extracted, but was easily resuscitated and lived. The mother's recovery from the operation was uneventful, but a year later her physician reported that she was very weak, thin, anemic, and suffering from diarrhea, alternating with constipation. There was also an offensive bloody discharge from the vagina. The pelvis was occupied by a large, hard nodular mass which descended low in the vagina and rose two and a half inches above the pubic arch. In the second case the woman's age was 29. A similar operation was performed and the patient made an excellent recovery. In this case also the child was partially asphyxiated, but was resuscitated. Wilson states that in both these cases the immediate result of the operation left nothing to be desired. The children were delivered alive and thrived so long as they were kept in the hospital, their subsequent deaths being due to carelessness and neglect on the part of the mothers. He states that his experience in these two cases shows that vaginal Cesarean section, even in the last months of pregnancy, is not a difficult one in suitable cases, that the immediate risk to the mother is not great, and that the chances for the child are good. The value of the proceeding, however, depends on the remote results as regards the reappearance of cancer, and until these can be estimated and compared the question of the best method of operating remains an open one.

6. **Complications of Uterine Fibromyomata.**—Cameron reports illustrative cases and discusses at length the various degenerations and complications which may take place in these growths. He says that while some authorities deny that sarcomatous changes can take place in fibromas of the uterus a careful review of reported cases compels one to admit that they may occur. A point of some interest in sarcomas of the uterus is that they may be shelled out exactly like a fibromyomata. He quotes statistics to prove that the association of adenocarcinoma of the uterine body with fibroids is more than a mere coincidence, and states that a fair average would be from 2 to 3 per cent. Carcinoma of the vaginal portion of the cervix with uterine fibroids is the most common variety. A frequent accompaniment of uterine fibromyomata is a marked increase in the size of the uterine and ovarian arteries, which, in well-marked cases, may approach the carotid in size. They are often greatly increased in length and become exceedingly tortuous. Microscopically, the circular and longitudinal coats are seen to be very much hypertrophied and in some cases there is a tendency to excess of fibrous tissue in the internal coat. Cystic degeneration in fibroids is a fairly frequent occurrence, according to Cameron, and may take place in young women or in women many years past the menopause. The cystic changes may be either diffuse or localized. One of the earliest changes in the histogenesis of cystic fibroids, he states, is a disappearance of the nuclear staining in the connective tissue. The fibers then seem to swell and disappear and the muscle cells are affected secondarily. Such progressive changes may give rise to spaces of large size, the walls of which resemble somewhat the interior of the heart cavities through the projection into them of the relatively unaltered muscular tissue. Cameron states that it is a curious fact that many broad ligament tumors undergo myxomatous change and says that recently he found this change in a spindle-celled sarcoma growing in the broad ligament. He refers to torsion of the pedicle in subserous myomata of the uterus with consequent displacement of that organ, and in some cases omental adhesions. He reports briefly a case of fibromyomatous polyp complicating a three months' pregnancy. The tumor was removed, but the patient aborted immediately after. Examination of the tumor after removal led Cameron to believe that when a submucous fibromyoma is extruded into the vagina and pregnancy supervenes the so-called mucous membrane may undergo changes analogous to those in the uterus. He refers briefly to fibroids complicated with tuberculous disease of the ovaries and tubes and to adenomyomata of the uterus.

9. **Prolapsus Uteri.**—Parsons reports on the results obtained in 93 cases of prolapse of the uterus with the operation introduced by him, consisting of the injection of the broad ligament with a solution of 12 grains of sulphate of quinin dissolved in 30 minims each of distilled water and dilute sulphuric acid. The idea is to cause an effusion of lymph in the utero-pelvic band within the broad ligaments so that repair will take place. There is no rise of temperature, no inflammation, no pain accompanying this procedure. It can be done anywhere and in a few minutes. The patient is prepared for the operation by douching the vagina with bichlorid of mercury, 1/2000. The bowels are thoroughly emptied and an enema is given the morning of the operation. Depending on the severity and duration of the prolapse, the patient is kept in bed for from one to seven days, and, if necessary, the uterus must be held in place with the pessary. Eighty per cent. of the patients treated had complete procidentia, some of them for many years. There was great improvement in nearly all the cases, and only one entire failure. About 80 per cent. are completely relieved of their prolapse. Six patients have born children since the operation and have not had any recurrence of the procidentia, although the uterus was a little lower after confinement than it was before. Recurrence of the prolapse took place in three cases after operation, and in one case after five months as the result of much coughing.

## The Lancet, London.

*September 23.*

10 Address on Morbid Growths, with a Suggestion as to Treatment. A. F. Blagdon Richards.
11 Paratyphoid Fever. F. P. Mackie.
12 Infective Purpura. S. R. Schofield.
13 *Forty Consecutive Cases of Fracture of the Patella Treated by Wiring. C. M. Moullin.
14 Case of Acute Tetanus Treated with Intracerebral Injections of Antitoxin. K. R. Storrs.
15 Recent Developments in the Surgical Treatment of Strabismus. S. Stephenson.
16 Action of Venoms of Different Species of Poisonous Snakes on the Nervous System. G. Lamb and W. K. Hunter.
17 Treatment of Wood Blindness. C. Wray.
18 *Treatment of Strychnin Poisoning and of Tetanus by Spinal Anesthesia. A. E. Russell.
19 Question of a Medical Training for Natives of South Africa. N. MacVicar.

13. **Fracture of Patella.**—For the past eight years Moullin has wired every case of fracture of the patella, with one exception, no matter what the size of the fragments, whether or not they were comminuted or whether the patients appeared to be on the verge of delirium tremens. The one exception was a case of refracture in an enormously stout woman in whom no operation of any kind was advisable. The operation was performed on the third or fourth day after the accident. A semicircular flap is raised from over the fragments and all the blood clot is carefully turned out. Each fragment is drilled in such a way that the wire does not project through the cartilaginous surfaces. A single stout silver wire is passed through and the ends are twisted together until the fragments are in exact apposition, cut short, and buried. No carbolic acid or other antiseptic is allowed to touch the interior of the joint. There is no occasion to wash it out, as the blood, being all coagulated, can be removed with ease by means of a scoop and forceps. The torn fascia on the cutaneous surface of the patella is then united with catgut and one or two catgut sutures are used to join together the aponeurosis on either side if it has been extensively lacerated. No drain is inserted, but the angle of the cutaneous incision is left a little open in case there should be any oozing. No splint is used. Deep and superficial dressings are applied and the knee is firmly bandaged.

On the third or fourth day the bandages and the superficial dressings are removed and are replaced by a lighter bandage, and the patient is encouraged to flex and to extend the limb more and more each day until by the end of two weeks it can be bent to a right angle. Massage is begun as soon as the wound is healed. The patient is allowed to get up before the end of the third week, and by the end of the fourth he is able to walk without a limp and to kick. In one instance bicycle riding was resumed before five weeks had elapsed from the date of the accident without any ill results.

18. **Treatment of Tetanus by Spinal Anesthesia.**—Russell reports a case of tetanus treated successfully by subdural spinal injections. Sixteen c.c. of cerebral fluid were withdrawn and 3 c.c. of the following solution were injected: One and a half grains of B. eucaine, one-third of a grain of morphin sulphate and three grains of sodium chlorid, with sufficient water to make three and a half ounces. This procedure was repeated four times.

### Indian Medical Gazette, Calcutta.
*September.*

19 Extraction of Cataract in the Capsule. H. Smith.
21 Notes on Plague in the Punjab. S. Browning-Smith.
23 Significance of the Pyriform Circular and Irregular Shaped Bodies Present in the Circulation, Organs or Tissues in Various Forms of Disease in Man and Animals, etc. A. Lingard.

### Bristol Medico-Chirurgical Journal, London.
*September.*

22 Relation of Medicine to the Natural Sciences. J. M. Clarke.
24 Surgical Aspect of Cholelithiasis. J. Swain.
25 Twin X-Ray Representation and the Reflecting Stereoscope. W. Cotton.
26 Study of the Records of 155 Cases of Operation for Appendicitis. C. A. Morton.
27 Note on Congenital Dilatation of the Ureters with Hydronephrosis. J. M. Fortescue-Brickdale.
28 Some Anomalous Cases of Locomotor Ataxia. F. H. Edgeworth.

### Intercolonial Medical Journal of Australasia, Melbourne.
*August.*

29 *Molluscum Fibrosum. A. W. F. Noyes.
30 *Use of Rye Bread in Diabetes. M. C. Lidwill.
31 Case of Movable Spleen with Rotated Pedicle—Splenectomy. G. A. Syme.
32 Case of Volvulus of the Cecum—Resection of Bowel—Recovery. G. A. Syme.

29. **Fibroma Molluscum.**—Noyes gives the history of five cases observed among 5,000 consecutive cases of skin affections and concludes as follows: 1. The so-called molluscum fibrosum growths arise from branches of the cutaneous nerves, by proliferation of the endoneurium. 2. The new tissue may remain confined by the perineurium for a period, or it may break away and become diffused at quite an early stage, spreading into the adjacent tissue surrounding any or all of the structures of the corium and subcutaneous tissue, including altered nerve branches themselves, which are still confined by the perineurium. 3. The proliferation of the endoneurium, and the consequent disappearance of the nerve fibers and their axis cylinders, leads to more or less loss of sensation in the cutaneous surface overlying the new tissue. 4. Similar changes in the nerves composing the vasomotor apparatus of the cutaneous vessels involved in the new growth may account for the clinically observed discolorations in connection with them. 5. The small nodular projections, due to proliferating endoneurium confined by perineurium, may occur in the smaller nerve branches, giving, microscopically, a neurofibroma-like appearance, without being clinically recognizable as such.

30. **Rye Bread in Diabetes.**—Lidwill was led to the use of rye bread in diabetes by the craving and empty feeling of which patients on the so-called diabetic diets complained. He found that rye bread is satisfying, stopping that empty feeling, and that patients eat but little of it in proportion to wheat bread, about a loaf and a half sufficing for a week. It contains but little digestible starch; it is laxative; the sugar in the urine diminishes considerably during its use; patients do not tire of it, and it is cheap. Its greatest use is in the milder forms of glycosuria occurring in the middle-aged or old.

### Annales de l'Institut Pasteur, Paris.
*Last indexed page 1281.*

33 (XIX, No. 8.) Les ferments de la caséine. P. Mazé.
34 L'ammoniaque dans le lait (in milk). A. Trillat and Sauton.
35 Sur la division nucléaire de la levure pressée (of yeast). Swellengrebel.
36 Sur le mécanisme du phénomène de l'action fractionnée des toxines (phénomène de Danysz). C. Levaditi.

### Revue de Chirurgie, Paris.
*Last indexed page 1281.*

37 (XXVI, No. 8.) *Ostéo-sarcome de l'humérus propagé aux parties molles. Amputation interscapulo-thoracique. Survie de un an. E. Jeanbrau.
38 *La survie après l'amputation interscapuo-thoracique pour tumeurs malignes (survivals). E. Jeanbrau and V. Riche.
39 *3 nouveaux cas d'amputations interscapulo-thoraciques, dont deux pratiquées pour des tumeurs de l'extrémité supérieure de l'humérus, suivis de quelques considérations sur les résultats et sur les indications de cette opération, et d'une modification de son manuel operatoire. Berger.
40 Systematic Evacuation of the Intestines (lavage by enterotomy combined with catheterization or expression of the loops in acute mechanical occlusions). Two instruments devised for the purpose. Research on the cadaver.—De l'évacuation méthodique de l'intestin. L. Pinatelle and G. Rivière.

37. **Long Survival After Removal of Osteosarcoma of Humerus.**—Jeanbrau describes in detail a case of malignant neoplasm, originating in the humerus, but extending far into the soft parts, which he treated by interscapulo-thoracic amputation, with the survival of the patient for twelve months. The osteosarcoma had evidently been insidiously developing for some time, but had caused no symptoms until the humerus fractured at the point while the patient, a woman of 41, was trying to open an umbrella in a storm. The amputation was by the Berger-Farabeuf technic. This entails the minimum of shock and prevents the generalization of the growth. The preliminary ligature of the subclavian artery and vein also prevents any appreciable loss of blood and diffusion of infectious material from the tumor. Great care should be taken not to pull on the arm, not even touching it, and not shaking the shoulder, thus avoiding embolism. By this means all traction on the spinal cord is avoided, and the operation is no more serious than mere disarticulation of the shoulder.

38. **Survivals After Interscapulo-thoracic Amputation.**—Further research and analysis of published records have shown that the operative mortality of this operation for malignant new growths, which was 29.16 per cent. before 1887, has dropped to 7.84 per cent. in recent years, and to 5 per cent. or less if the fatalities for which the operation was not responsible are excluded. The average survival is three years, which is a most remarkable showing when we consider that this crippling operation is not accepted by patients except as a last resort in advanced stages of malignant disease, when their resisting powers are at a low ebb. The number of cases on record is now 125 histologically verified and 63 not verified with the microscope, as the diagnosis was unmistakable at the stage of the disease when the operation was performed. Before the year 1887 the number was 35 cases, with 29.16 per cent. mortality, but since that year the mortality has been only 7.84 per cent. in 153 cases. Absolute cure is possible, as 24 of these patients were in good health five years and more since the operation. Küster, Roth and Ochsner have each a patient in good health for more than ten years, Ochsner and Körte others for more than thirteen, and Chavasse others for more than fifteen years after operation. A patient operated on by Ollier in 1884 is in good health to-day, and one of Syme's patients was known to be in good health for twenty-six years. All the cases since 1887 are summarized at the conclusion of the article.

39. **Modified Technic of Interscapulo-thoracic Amputation.**—Berger here describes 4 new cases of this operation and his latest modification of his original technic. He has performed the operation seven times. He classifies the 129 cases since 1887 according as the lesion originated in the humerus, in the scapula or in the soft parts. When in the humerus, the mortality has been 2.75 per cent. in 73 cases; in the scapula, 25 per cent. in 20 cases of sarcoma, while one operation for a chondroma was followed by recovery. In 35 cases of tumors originating in the soft parts the mortality was 11.24 per cent. These figures indicate the greater seriousness of lesions in the scapula or soft parts in comparison with those in the humerus. It is more difficult to find and to ligate the subclavian and axillary vessels, and, as the muscles are more liable to be involved, the mutilation is more extensive. Recurrence or

generalization of malignant tumors in the humerus was observed in only 48.38 per cent., while the proportion was 73.17 per cent. with tumors of other origin. The survival after removal by this technic of sarcoma of the humerus has averaged from nineteen to twenty months in 30 cases; in case of sarcoma of the scapula from thirteen to fourteen months elapsed before recurrence or generalization was observed, and from nineteen to twenty months in case of malignant tumors in the soft parts. Recovery is the rule after removal of a chondroma. Instead of resecting merely the median portion of the clavicle, he now resects the entire sternal portion after dividing the clavicle in the center. Drainage must be thorough, and for this purpose he introduces a large drain through an incision in the belly of the stumps of the serratus magnus and of the latissimus dorsi to drain the blind pouch between them and the thoracic wall. Drain tubes as large as one's thumb are also inserted at each side and corner and at the lowest point of the operative wound, which should be sutured elsewhere. The dressings should be changed every day, withdrawing the drains after from the fourth to sixth day. In his last four cases healing was complete by the tenth day.

### Semaine Médicale, Paris.

41 (XXV, No. 38.) *Des sténoses méconnues du pylore dans l'ulcère gastrique (unsuspected stenosis). Oettinger.
42 *Le signe de Kernig est-il pathognomonique de la meningite?

**41. Unsuspected Stenosis of the Pylorus.**—Oettinger calls attention to the frequency of unsuspected partial stenosis of the pylorus. He believes that many cases have been diagnosed as gastrosuccorrhea or other anomaly when in reality the trouble was due to partial stenosis accompanying an ulcer near the pylorus. He describes a case which sustains this assumption. The patient was under observation for six years, and yet until the last few months the possibility of stenosis had never been thought of. He had presented stomach symptoms for eleven years. At first they were intermittent, actual crises with intervals of apparently perfect health. Stagnation of food, with hypersecretion and peristalsis of the stomach, were noted even from the first, but the intervals of apparently perfect health caused the first suggestion of stenosis to be dismissed as untenable. The intervals became shorter and shorter, the symptoms of the crises simulating those of gastrosuccorrhea, intermittent at first, but later becoming chronic. The duration of the attacks was variable, sometimes lasting for several days, but always presenting the features of extremely violent paroxysmal pain, coming on two or three hours after the meals, especially at night, and frequently, but not always, terminating in vomiting of an acid fluid or else of food. According as the stomach contents were obtained at different times, the findings varied from those of hypersecretion with stasis, hypersecretion without stasis or intermittent gastrosuccorrhea to findings which seemed to indicate that the motor functions were quite or nearly normal. All the time the real cause of the disturbances had been an ulcer near the pylorus, entailing partial stenosis of the latter. The stomach was frequently found entirely empty, but at other times residual fluid was found in the morning. If this finding is repeated several times, the amount of fluid being over 40 or 50 c.c., the diagnosis of stenosis becomes more probable, even if at other times the stomach is found empty. The occurrence of pyloric ulcer with partial stenosis may be secondary to hyperacid catarrh, which is generally accompanied by hypersecretion and delay in the evacuation of the stomach.

**42. Kernig's Sign.**—An editorial reviews the evidence presented in the last few months in regard to the pathognomonic value of Kernig's sign in meningitis. The conclusions are that this sign does not necessarily imply the involvement of the meninges, but that it is a confirmatory sign in addition to others suggesting the presence of meningitis.

### Archiv f. klinische Chirurgie, Berlin.

*Last indexed page 1205.*

43 (LXXVII, No. 2.) *Ueber Pneumonien nach Laparotomien. G. Kelling.
44 Local Tetanus.—Fall von "ortlichem Tetanus. Antitoxin-Einspritzungen in die Nerven-Stämme. Heilung. E. Kuster.
45 Ueber Gallenfluss nach Echinokokken-Operation (flow of bile). E. Rausch.
46 *Ueber den postoperativen Vorfall von Baucheingeweiden (prolapse of viscera). O. Madelung.
47 Kroenlein's Orbit.-l-Resection zur Behandlung retrobulbarer Geschwülste und Entzündungen. T. Azenfeld.
48 Retroperitoneales Lipom der Nierenfetthapsel im Kindesalter (of adipose capsule of child's kidney). A. Neumann.
49 Einfluss der Gas-Gemisch-Narkosen auf die inneren Organe. B. Muller.
50 Mental Weakness and Physical Affections in Surgical Domain.—Geistige Schwäche und körperliche Leiden auf chirurgischem Gebiete. Hydrops Genu permagnum. Riedel.
51 Die Tracheo-Bronchoskopie in diagnostischer und therapeutischer Hinsicht. Killian.
52 Zur Frage des Verschlusses traumatischer Schädeldefects (defects in skull). A. Stieda.

**43. Postlaparotomy Pneumonia.**—Kelling's researches have established, he thinks, that there is a tendency to hypostasis in the lungs, especially in the right lower lobe, after a laparotomy. Aspiration pneumonia occurs more frequently after laparotomies than after other operations, especially pleuropneumonia of the right lower lobe. This occurs most often when the field of operation was infected. The lung becomes infected through the lymphatics passing through the diaphragm. Pneumonia from embolism is also of frequent occurrence. The infection is transmitted from some ligated vein communicating with the vena cava system or by way of the retroperitoneal veins whose lymphatics are connected with those of the mesentery. Sepsis with hypostatic pneumonia can also spread from the abdomen, and infectious thrombi may form at predisposed points of the veins, because the lymphatics of the diaphragm communicate directly with the blood-vessel system. Infection from the air also deserves more attention than has hitherto been accorded. The conditions are more unfavorable during a laparotomy than in almost any other operation. Postoperative pneumonia is due to infection which would not have occurred without the operation. The operation should be performed in a room absolutely free from dust. There should be no talking over the wound, and mouth masks should be worn. It should further be investigated whether diluting the germs by copious rinsing might not attenuate their virulence. It might be well to flush out the abdominal cavity through the laparotomy wound with a stream of water entering elsewhere and pouring out through the wound. Copious ingestion or injection of fluids also promotes the circulation and reduces the danger of embolism. Early movements of the legs are also important to prevent thrombosis. If the legs are varicose, they should be raised high on pillows. He is convinced that the prevention of infection of the field of operation is the main point in preventing pneumonia after laparotomies.

**46. Postoperative Prolapse of Abdominal Viscera.**—Madelung has collected 144 cases from the literature and knows of others, including seven in his own experience, that bring the total to 157. He analyzes them all to learn the causes of the giving way of the cicatrix and of the prolapse. In 29 cases death was the direct result of the prolapse. Those who survive are not exposed to more disturbances than other people, after the prolapse has been corrected. The number of cases in which the cicatrix was abnormally thin was surprisingly small. The prolapse recurred twice in one and three times in another case. Reposition was generally difficult. Narcosis is not necessary for reduction, as the manipulation of the prolapsed intestines is not felt as pain.

### Centralblatt f. Gynäkologie, Leipsic.

*Last indexed page 744.*

53 (XXIX, No. 32, Aug. 12.) *Spontane Narben-Ruptur nach querem Fundal-Schnitt (rupture of cicatrix after transverse Cesarean section). Schink.
54 2 Fälle von Zwillings-Placenta mit gemeinsamen Amnion (twins with single amnion). T. v. Wenczel.
55 Eine neue Wochenbettbinde (bandage after delivery). J. Ernst (Cologne).
56 (No. 33.) *Ueber Ovarial-Resektion. P. Zacharias.
57 Ueber Clavicula-Frakturen Neugeborener bei Geburt in Schädellage (in vertex presentation). E. Hauch.
58 (No. 34.) Origin of Oblique and Transverse Presentation.—Zur Entstehung der Schräg- und Querlagen. F. Kermauner.
59 Fall von polypösem Kystom. O. Nebesky.
60 *Varying Tonicity of Uterine Muscle.—Ueber wechselnden Tonus des Gebärmuttermuskels mit Bezug auf die Gefahr einer Perforation bei der Curettage. C. V. Tussenbroek.
61 (No. 35.) Does Large Head Justify Operation to Enlarge Pelvis?—Rechtfertigt ein abnorm grosser Kindskopf auch beim wenig verengten Becken die operative Beckenerweiterung? H. Bellheim (Krönig's clinic). Freiburg.
62 Delivery in Case of Extreme Hypertrophy of Cervix.—Geburtsverlauf bei einem Fall von hochgradiger Cervix-Hypertrophie. T. Haagn.

63 (No. 36.) Zur Topographie und Technik der subkutanen Hebotomie nach Doderlein (extramedian symphysectomy). H. Sellheim. Id.—G. Walcher.

53. **Spontaneous Rupture of Cicatrix After Fundal Incision.**—Schink has observed a case of rupture of the cicatrix after a transverse fundal incision, and has found three similar cases on record. He gives the details of each. His patient had passed through a pregnancy since the incision, and the rupture did not occur until the second pregnancy. The placenta was not attacned near the point of rupture. He thinks that such cicatricial tissue is liable to be less resistant than the rest of the uterus.

56. **Resection of Ovary.**—Zacharias relates that Menge has succeeded in maintaining menstruation in three women on whom he operated for removal of bilateral ovarian cysts that had substituted the normal ovary. He accomplished this by making an oval incision around the base of the tumor, which he then shells out with his fingers, leaving an oval plate of ovarian tissue not more than 1 or 2 mm. thick at any point. The edges of this plate are then turned in until the raw surface is entirely covered and the tissue is sutured, the resulting roll being shaped something like a sausage, in the place of the normal ovary. This little roll contains the germinal epithelium of the albuginea and a strip of connective tissue. No follicles could be discovered in it, but a few isolated corpora albicantia were found. The three patients exhibited a few symptoms of the artificial menopause immediately after the operation, but they rapidly subsided, and menstruation has been apparently entirely normal since. The patients were from 25 to 34 years of age.

60. **Varying Elasticity of Uterine Muscle.**—Van Tussenbroek is amazed that the variations in the elasticity of the uterine walls have attracted so little attention. In many text-books it is announced as a sure sign of perforation when the curette can suddenly be pushed in a few centimeters farther than at first. She thinks that this is of frequent occurrence, and that it is merely the result of the sudden relaxation of the elasticity of the musculature under the influence of the curetting or of the preceding tent dilatation. In some instances she has even found the walls so loose and flabby that curetting was impossible, but by waiting for a time they regained their normal elastic retraction. This flabbiness, of course, increases the predisposition to perforation. She gives a number of illustrations and arguments to show that this transient paralysis is probably due to the mechanical irritation and reviews the literature on the subject since van der Mey first called attention to it in 1894.

### Deutsches Archiv f. klinische Medizin, Leipzig.

*Last indexed pages 884 and 888.*

64 (LXXXIII, Nos. 5-6.) *Experimentelle Untersuchungen über die Ursachen der Abtötung von Bakterien im Dünndarm (causes of destruction of bacteria in small intestine). Reily and Q. Liebermeister.

65 *Influence of Changes in Circulation on Composition of Urine.—Einfluss von Kreislaufänderungen auf die Urinzusammensetzung. A. Loeb (Strasburg).

66 *Action of Roentgen, Radium and Ultra-violet Rays on Blood, etc.—Experimentelle Untersuchungen über die Einwirkung der Roentgenstrahlen auf das Blut, und Bemerkungen über die Einwirkung von Radium und ultravioletten Lichte. F. Linser and H. Helber.

67 Purinstoffwechsel beim Menschen (purin metabolism in man). B. Bloch.

68 *Utilisation of Nitrogenous Food in Digestive Disturbances.—Ausnutzung stickstoffhaltiger Nahrungsmittel bei Störungen der Verdauung. W. Roehl (Heidelberg).

69 *Bakterienie bei der Lungen-Tuberkulose. O. Jochmann (Breslau).

70 Determination of Ammonia and Carbonic Acid in Urine.—Ueber Ammoniak-und Kohlensäurebestimmung im Harn. F. Moritz.

71 *Bedeutung der Dermographie für die Diagnose funktioneller Neurosen. H. Stursberg (Bonn).

64. **Causes of Destruction of Bacteria in Small Intestine.**—Among the conclusions of the experimental research reported is one to the effect that bile, pancreatic juice and intestine juice have no bactericidal action, but form a good culture medium for microbes. The intestinal wall, on the other hand, plays a certain part in the destruction of bacteria. The acidity of the chyme as it leaves the stomach has an inhibiting action on the growth of the bacteria, but if it is neutralized by an alkali the bacteria flourish. They also proliferate when the intestinal walls are irritated or the peristalsis diminished. The mucosa of the normal small intestine insures freedom from bacteria throughout this part of the bowels. When the mucosa is inflamed or diseased it is no longer able to accomplish this, while the intestinal juice offers a good culture medium for the bacteria in which they flourish accordingly.

65. **Influence of Changes in the Circulation on Composition of the Urine.**—The first part of this study is devoted to orthostatic albuminuria. The details of the examination of 17 patients and of a number of normal persons are given in tabulated form for comparison. The findings testify to the fact that orthostatic albuminuria does not positively exclude nephritis, but that a majority of the cases are not of a nephritic, but rather of a cardio-vascular, circulatory nature and origin. Changing from the reclining to the upright position seems to be the cause, not the upright position in itself, as the albuminuria grows less after the individual has been up for some time. The increased concentration of the urine suggests that the circulation through the kidneys is hampered, while the pressure in the veins is higher, and this means venous hyperemia, which can not fail to injure the organ more or less in time, although Posner's patient has exhibited orthostatic albuminuria for many years without evidence of nephritis. Lincssier and Lemoine found that the amount of urine was less when their patients were up than when they spent a corresponding twelve hours in bed. The reduction in the output of urine was most pronounced in the patients with some kidney affection.

66. **Action of Roentgen, Radium and Ultra-violet Rays on the Blood.**—Linser and Helber summarize the results of their experimental studies in the statements that radium and ultra-violet rays have no appreciable influence on the blood, but that the Roentgen rays have an elective destructive action on the white corpuscles. This action is most pronounced in the circulating blood. The lymphocytes are the least resistant to the Roentgen rays. A leucotoxin is generated by the destruction of the white corpuscle, and injection of this leucotoxin into the circulation of other animals has a destructive action on the circulating leucocytes. The leucotoxin produced in the blood after exposure to the Roentgen rays induces an immunity to the leucotoxin in time. After Roentgen exposures, nephritis was frequently observed even when the rays had not been applied directly to the kidney. Rabbits, rats, dogs and pigs were the animals used in the experiments.

68. **Utilization of Nitrogenous Foods in Digestive Disturbances.**—Roehl's tests failed to show that digestive disturbances prevented the utilization of the nitrogenous elements of the food to an extent sufficient to explain the prostration and loss of weight observed in these cases. The cause of the disturbances in the metabolism can not be sought in the nitrogen assimilation.

69. **Bacteriemia in Pulmonary Tuberculosis.**—Jochmann asserts that, as a rule, it is impossible to detect bacteria in the blood in progressing cases of pulmonary tuberculosis. When found postmortem, they are due to agonal invasion, when the bactericidal properties of the blood have been lost.

71. **Dermographia.**—Stursberg examined 90 men, 84 women and 70 children in regard to the response of their skin to a line drawn with moderate pressure and moderately quickly along the skin with the rounded end of a metal pencil holder. The stroke was made on the skin of the chest and upper part of the back, and the interval before redness appeared and before it disappeared was noted. The skin became red in nearly every instance. The redness was slightly more pronounced in the patients with neuroses than in others, but the average was surpassed in some of the patients who were free from neurotic manifestations. Dermographia, therefore, has no appreciable diagnostic significance.

### Deutsche Zeitschrift f. Chirurgie, Leipzig.

*Last indexed page 158.*

72 (LXXVI, Nos. 2-3.) Causes of Pressure Stasis from Compression of the Trunk.—Die sogen. Stauungsblutungen infolge Ueberdrucks im Rumpf und dessen verschiedene Ursachen. R. Milner. (Supplement to No. 4.)

74 Peroraie Tubage und pulmonale Narkose. F. Kuhn (Cassel).

75 Fall von intra- und extracranieli gelegenem Echinococcus. W. Schlagintweit.

76 Knorpel-Regeneration (of cartilage). M. Mori.

77 Fracturen der Finger-Phalangen. O. E. Schulz.

78 *Ueber Pathologische Frakturen (Spontan-Frakturen). Grunert.
79 (Nos. 4-6.) *Intestinal Stenosis After Operative or Non-Operative Reposition of Incarcerated Hernia.—Ueber Darmverengerungen, etc. L. Meyer (Chaux-de-Fonds).
80 Zur Frage von den primären Muskel-Angiomen. H. Sutter.
81 Cure of Chronic Incarceration of Stomach in Congenital Hernia of the Diaphragm, with Remarks on Possibility of Resecting a Carcinoma in the Cardia.—Geschichte eines Falles von chron. incarceration des Magens, etc. L. Heilbenhain.
82 *Statistik und Casuistik über 290 histologisch untersuchte Haut-Carcinome (of skin). R. Borrmann (Göttingen).
83 Obstruction from Changes in Position and Shape of Colon.—Ueber den durch Lage- und Gestaltveränderungen des Colon bedingten vollkommenen und unvollkommenen Darmverschluss. H. Braun.
84 Case of Congenital, Inherited Genua Valga and of Luxation of the Head of the Radius.—Fall von angeb. vererbter Verbildung beider Knie-und Ellenbogengelenke. F. Roskoschny (Vienna).
85 *Action of Shock in Shot-Wounds.—Zur Shockwirkung bei Schrotschüssen. Schleffer.

**78. Pathologic Fractures.**—Grunert classifies pathologic, spontaneous fractures as those due to local changes in the bones, those due to some general affection and those due to idiopathic fragility. He reviews the literature of each class. There are now 73 cases of idiopathic fragility of bone on record. The influence of heredity is a striking feature of some of the cases, fully 20 out of the 73 showing hereditary transmission. The multiple fractures numbered 113 in Chaussier's cases, 119 in Hondley's and more than 200 in Esquirol's. The tendency to fracture in the idiopathic cases is manifested early. He notes that 45 of the 73 cases were observed in England or America, and only 28 in Germany, France and Italy. Verchère has reported that young people displaying a tendency to fractures from slight trauma exhibited polyuria with elimination of unusually large amounts of phosphoric acid. It may be possible, Grunert suggests, that a predominant meat diet may alter the composition of the bones in the course of generations so that they may acquire extraordinary fragility, although the diet of the later generations may be entirely hygienic. Further study of the assumed phosphaturia in these cases is necessary to elucidate the still obscure question of the idiopathic tendency to multiple fractures from trifling causes.

**79. Stenosis of Intestine After Reposition of Incarcerated Hernia.**—Meyer reports a case and tabulates those found in the literature in which symptoms of obstruction developed after reposition of an incarcerated hernia. In some cases the symptoms of obstruction persisted either from mechanical obstruction or from functional disturbance of the activity of the intestines; in others the stenosis developed later, after the intestine had been permeable for some time. The details of the latter class are tabulated, thirty pages being devoted to the tables and twenty more to analysis of the cases. He also analyzes the literature on the subject of intestinal hemorrhage after reposition of incarcerated hernia. The danger of tardy stenosis is another reason why forcible taxis should be rejected and herniotomy preferred. Kocher emphasizes the importance of noting whether the arteries in the mesentery of the loop are pulsating as a criterion of the condition of the circulation in the loop. This guards against reposition of a loop destined later to perforate or become gangrenous. The tendency to stenosis seems to be the prerogative of the mucosa. Whether to make an artificial anus or to keep the loop outside the abdomen for a time depends on the individual conditions. The symptoms of tardy stenosis should first be treated on the assumption that they are purely functional, but when this is disproved by their persistence the surgeon should be called for enteroanastomosis or resection, preferably the former. The advantages of resection include microscopic examination of the resected portion which removes all doubt as to the nature of the trouble. If an operation is deemed inadvisable under the circumstances, a temporary artificial anus will relieve and the resection or anastomosis can be made later.

**82. Histologic Examination of 290 Extirpated Superficial Cancers.**—The details of the 290 cases collected between 1901 and 1904 are given in tables with thirteen columns for better comparison. No recurrence has been observed in 111 out of 117 cases in which the cancer was excised into sound tissue, while recurrence has followed in 15 out of 27 in which histologic examination of the edges of the excised portion showed that it did not extend into sound tissue. Borrmann insists that cancer statistics are reliable only when the cases are followed after excision and when histologic examination of the excised tumor shows whether or not the excision was made into sound tissue. He found sound tissue in 81.3 per cent. of the 229 cases of carcinoma of the face, while it was found in only 62.5 per cent. of the cancers removed from the brow and in 70 per cent. of those from the cheek. His experience has been that the percentage is much less in cancers of the tongue and mucosa of the mouth, while it is highest in cancer of the upper lip. The various features of the cases are given with a wealth of details, and the cancers are grouped and classified according to the location, character, course, etc.

**85. Shock in Case of Shot Wounds.**—Schieffer refers to the sudden collapse of dogs when they are hit by shot. It is explainable only by the assumption of shock, as the wounds themselves are not enough to cause death so suddenly. In this article he describes his experiences with dogs under the influence of lumbar anesthesia which seems to attenuate or entirely to abolish the shock. Four out of 5 normal dogs dropped dead when shot, while those under the influence of the lumbar anesthesia survived much longer, although their injuries from the shot were more serious than those of the other dogs.

### Mitteilungen a. d. Grenzgebieten der Med. und Chir., Jena.

*Last indexed XLIV, page 778.*

86 (XIV, No. 5.) *Zur Naturgeschichte der Gallensteine und zur Cholelithiasis (natural history of gallstones). B. Naunyn.
87 *Invagination in Children.—107 Fälle von Darm-Invagination bei Kindern behandelt im Königin-Louisen-Kinderhospital in Kopenhagen 1871-1904. H. Hirschsprung.
88 Zur Frage der Früh-Operation der Appendizitis. P. Klemm.
89 Zur Frage der Nierenaushülsung nach Edebohls (decapsulation). C. Stern.
90 Darmverschluss und Darmverengerung infolge von Perityphlitis (occlusion and stricture). H. Loevinsohn.
91 Gelatine und Blutgerinnung (coagulation of blood). G. Landmann.
92 *Wirkung der Radiumstrahlen auf verschiedene Gewebe und Organe (action of radium rays on various tissues and organs). A. Thies.
93 Ueber chronische ankylosierende Wirbelsäuleversteifung (rigid spine). O. Ehrhardt.

**86. Cholelithiasis.**—Naunyn remarks that the modern era of cholelithiasis dawned only thirteen years ago. His studies of the natural history of gallstones are based on examination of stones from more than 1,000 cadavers. In all this experience he encountered only ten instances in which there had been an unmistakable dissolving of the stones. They were composed mostly of cholesterin, and the features of the dissolving process observed suggest that it was due to the action of certain bacteria. The action of bacteria is further evidenced by the presence of inorganic lime—phosphate and carbonate—in the stones. Attempts to dissolve the stones by therapeutic measures he does not regard as very promising. The task of internal medicine is to fight the infection of the biliary passages complicating or causing the lithiasis. Nothing is so successful for this as systematic and energetic application of cataplasms to the liver region with hot Carlsbad or similar alkaline-carbonated sodium sulphate water internally. Neither purgatives nor cholagogues are so effectual, according to his experience. He is convinced that it is possible for even a large gallstone to form within a few days or even hours. The Roentgen rays show up well only the stones containing considerable lime. In differentiating cholelithiasis from a stomach affection, the character of the first attack of pain is very important, especially if it occurs in the middle of the night. In this incipient phase the gall bladder is seldom adherent to the pylorus or duodenum. Consequently the pains at first are independent of the taking of food. Later they simulate gastric disturbances. A palpably enlarged spleen is a strong argument in favor of cholelithiasis. Suddenly developing cachexia speaks for cancer in dubious cases. In cases of a fistula into the duodenum, symptoms develop suggesting ileus or diffuse peritonitis. This condition may last for weeks, and when the surgeon is ready to operate the passage of a stone may restore conditions to normal.

**87. Invagination in Children.**—In the 107 cases of invagination reported, the children were well nourished, but habitual constipation seemed to be the rule. The ages ranged from a few months to 8 years. Over 60 per cent. were cured by chloroform, taxis and injection of water under pressure. Hirschsprung expresses surprise at the comparatively large

number of cases of invagination which he has had occasion to observe, no one else reporting such figures as his. The invaginations in some years seemed to assume almost an epidemic form. The passage of blood-stained stools should warn the mother and physician of the possibility of existing invagination, and the discovery under chloroform of the solid, cylindrical tumor confirms the diagnosis. Digital exploration of the rectus brings away a lot of blood-stained mucus. Under taxis the tumor changes its place and grows smaller and smaller until it finally disappears altogether. Laparotomy had to be performed in 4 cases, 2 of the children recovering. In one of these the invagination was in the small intestine, and reduction was impossible. The abdomen was opened at once, although the child had been brought in during the night, and the invagination was reduced, nine hours after the first symptoms. In the 2 cases in which the children died after laparotomy, five days or fifty-four hours had elapsed after the first symptoms before the children were brought to the surgeon, several days having been wasted on internal measures.

92. **Action of Radium Rays on Various Tissues and Organs.**—Thies has been conducting extensive experimental research on the action of radium rays on living tissues. He has found that it is by no means always a destructive action, but that under certain conditions cell multiplication becomes more lively. The cells of the epidermis proliferate, giving rise to an appearance resembling that observed in cancroids of the skin. The tests were made on tissues and organs of guinea-pigs and mice and on scraps of tissue from Thies' own arm. The vessels proved exceptionally susceptible to the action of the radium rays, and this explains their efficacy in curing angioma. Two large angiomata on a child were exposed for an hour to the action of 10 mg. of radium. In the course of two weeks a flat scab formed over the exposed parts, and was thrown off six days later. By the sixth week after the exposure the vessels were no longer visible. In the place of the angioma there was merely a patch of apparently normal skin a little lighter in color than its surroundings, but even this difference was scarcely perceptible by the end of six months. In another case a protuberant angioma was exposed for an hour and a half. By the sixth week an insignificant scar was all that was left of the former prominent disfigurement. No spermatozoa were found in the testicles and epididymis of guinea-pigs after the radium had been fastened on the testicle for twenty-four hours. All the various tissues exposed reacted in some way to the radium rays, the reaction of the adenoid tissue and bone marrow being most pronounced. The lymphocytes vanished almost entirely from the blood of the exposed animals and also the polynuclear leucocytes. Next in order of susceptibility comes the epithelium. The epithelial cells are completely destroyed, as a rule, but when certain substances are interposed the cells are stimulated to redoubled proliferation.

### Zeitschrift f. Geb. und Gynäkologie, Stuttgart.

*Last indexed XLIV, page 189.*

94 (LIV, No. 2.) Ueber die Statik und Mechanik des weiblichen Beckens (of female pelvis). A. Jaks.
95 Geburt bei Amnion-Anomalien (delivery in case of amnion anomalies). H. v. Bardeleben.
96 *Bemerkungen zu den biologischen Theorien der Eclampsie. A. Labhardt.
97 Ueber Indikation und Ausführung des Kaiserschnitts (Cesarean section). H. Dauber.
98 Das klinische Verhalten des Adenomyoma corporis uteri. O. Polano.
99 Ueber Agglutination der Vaginal-Streptokokken gravider Frauen und die durch dieselben hervorgerufene Hemolyse. H. Reber (Berne).
100 Gibt es histologische Indizien für das Chorioepithelioma "Benignum?" K. Hörmann (Munich).
101 (No. 3.) Proliferation of Corpus Epithelium with Cervix Carcinoma.—Ueber Wucherungen im Korpusepithel bei Zervixkarzinom. E. Kraus.
102 *Zur konservativen Behandlung der Myome des Uterus. L. Pincus.
103 Ein weiterer Beitrag zur Hydrorrhoea uteri amnialis. W. Stoeckel.
104 Histologische Untersuchungen über die sekretorische Tätigkeit des Amnion-Epithels. L. Mandl.
105 Pathology of Childbirth According to Bible and Talmud.—Die Pathologie der Geburt nach Bibel und Talmud. J. Preuss.
106 Ein weiterer Beitrag zur Lehre von den Gynatresien. Fromme.
107 Spontaneous Correction of Position of Head with Face Presentation.—Ueber spontane Haltungskorrektur des Kopfes bei Gesichtslage. H. Priolet.
108 *Ergebnisse der abdominalen Radikaloperation des Gebärmutterscheidenkrebses mittels Laparotomia hypogastrica (for utero-vaginal cancer). A. Mackenrodt.

96. **Biologic Theory of Eclampsia.**—Labhardt analyzes the relations between the biologic theory of eclampsia and the pathologic anatomic findings and the general principles of biology and pathology. Also the connection between the biologic theory and the clinical manifestations of the affection, and reviews the experiments that have served to sustain the biologic theory. His comment on the whole is that the theory conflicts with what is known and lacks proof to sustain it, while all the evidence is antagonistic. The placenta and fetus are not foreign bodies to the maternal organism, and the absorption of their tissue, he declares, does not injure the kidney and can not be the cause of eclampsia.

102. **Conservative Treatment of Myoma of Uterus.**—Pincus describes the technic of steam or superheated-air cauterization of the uterus as he has evolved and perfected it, and reviews the indications for its use. This method of conservative treatment of uterine lesions has been previously described in these columns.

108. **Results of Abdominal Laparotomy for Uterovaginal Cancer.**—Mackenrodt reports 90 per cent. operability; 19 per cent. mortality; 69 per cent. cures, and recurrence in 12 per cent. of his clinical cases. The frequent discovery of metastases in the parametrium in patients who seemed to be in the incipient stages has compelled him to believe the hypogastric the only safe route. He describes his technic and gives the particulars of his operative intervention in a number of cases.

### Archivio per le Scienze Mediche, Turin.

*Last indexed XLIV, page 192.*

109 (XXIX, No. 3.) In Memoriam. G. Bizzozero.
110 *Ricerche sulla tubercolosi del rettili (of reptiles). E. Bertarelli.
111 Study of Inguinal Canal in Both Sexes.—Sull'ernia inguinale diretta nella donna. M. Donati.
112 Sull'adenoma delle ghiandole sudoripare e suoi rapporti col cilindroma ed endotelioma cutanei. C. A. Grillo.

110. **Tuberculosis in Reptiles.**—Bertarelli succeeded in inoculating the lizard with tuberculosis from human sputa. The lesions were not very extensive in the reptile and the bacilli seemed to become attenuated by their passage through its body, but not sufficiently so to confer vaccinating properties in further inoculation of guinea-pigs. Human bacilli multiplied in amazing numbers after subcutaneous injection into the lizard, but they evidently behaved to a certain extent like saprophytes, adapting themselves to their new host. The reptiles of the tropics frequently exhibit lesions similar to those found in this lizard, but they have never been noted before in the reptiles of Italy. Bertarelli suggests that tropical reptiles may prove promising subjects for experimental research in the endeavor to obtain an effectual vaccine against tuberculosis in man.

## Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

CLINICAL DIAGNOSIS. The Bacteriological, Chemical and Microscopical Evidences of Disease. By R. v. Jaksch, M.D. Edited by A. E. Garrod, M.A., M.D., F.R.C.P. Fifth Edition. 172 illustrations, Many in Colors. Cloth. Pp. 601. Price, $7.50. Philadelphia: J. B. Lippincott & Co. 1905.

DIE CHIRURGISCHE BEHANDLUNG DER HÄMORRHOIDEN.—Eine klinische Sammelstudie. By Dr. P. Schlacht, Königlich-Preussischem Assistensarst im 2. Ostpreussischen Feldartillerie-Regiment Nr. 52. Zweite Auflage. Königsberg i. Pr. 1904. Gräfe & Unzer.

MANUAL OF OPERATIVE HISTOLOGY. By J. F. Binnie, A.M., C.M. Second Edition. 567 Illustrations, Some in Colors. Cloth. Pp. 622. Price, $3.00 net. Philadelphia: P. Blakiston's Son & Co. 1905.

A GUIDE TO ANESTHETICS for the Student and General Practitioner. By T. D. Luke, M.B., F.R.C.S. Second Edition. 45 illustrations. Cloth. Pp. 135. Philadelphia: J. B. Lippincott & Co. 1905.

MATERIA MEDICA AND PHARMACY. By R. W. Wilcox, M.A., M.D., LL.D. Sixth Edition. Cloth. Pp. 624. Price, $2.50 net. Philadelphia: P. Blakiston's Son & Co. 1905.

METHODS OF MORBID HISTOLOGY AND CLINICAL PATHOLOGY. By I. W. Hall, M.D., and G. Herzheimer, M.D. Cloth. Pp. 200. Philadelphia: J. B. Lippincott & Co. 1905.

VITAL QUESTIONS. By H. D. Chapin, M.D. Cloth. Pp. 189. Price, $1.00 net. New York: T. Y. Crowell & Co.